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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:32:31 ; Search time 35.4398 Seconds
(without alignments)
497.144 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_19Jun03:*

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- 2: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
- 3: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*
- 4: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*
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- 22: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
- 23: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*
- 24: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,

and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query		DB	ID	Description
		Match	Length			
1	602	100.0	111	22	AAE02449	Rabbit IGF-I isofo
2	602	100.0	111	23	AAU10561	Rabbit mechano-gro
3	602	100.0	121	18	AAW23301	Rabbit insulin lik
4	572.5	95.1	110	22	AAE02447	Human IGF-I isofo
5	572.5	95.1	110	23	AAU10559	Human mechano-grow
6	539	89.5	133	24	ABP58085	Mouse insulin-like
7	536	89.0	195	8	AAP70277	Sequence of pre-pr
8	512	85.0	111	22	AAE02448	Rat IGF-I isoform
9	512	85.0	111	23	AAU10560	Rat mechano-growth
10	468	77.7	105	22	AAE02452	Rabbit liver-type
11	468	77.7	105	23	AAU10564	Rabbit insulin-lik
12	465	77.2	105	22	AAE02450	Human liver-type I
13	465	77.2	105	23	AAU10562	Human insulin-like
14	465	77.2	137	22	AAU09067	Human insulin-like
15	465	77.2	153	16	AAR83803	Insulin-like growt
16	465	77.2	153	19	AAW69733	Human IGF-1. Homo
17	465	77.2	153	19	AAW57882	Human IGF-I protei
18	465	77.2	153	23	AAU84284	Human endometrial
19	465	77.2	153	23	AAU84341	Protein IGF1 diffe
20	465	77.2	156	18	AAW23302	Human insulin like
21	462	76.7	105	22	AAE02456	Rabbit liver-type
22	458	76.1	119	7	AAP60578	Human prepro-somat
23	456	75.7	154	14	AAR40844	Goat Insulin like
24	454.5	75.5	191	19	AAW64068	Chimeric rhIGF-I-A
25	454.5	75.5	191	23	AAE24881	Yeast alpha factor
26	420	69.8	105	22	AAE02451	Rat liver-type IGF
27	420	69.8	105	22	AAE02531	Rat liver-type IGF
28	420	69.8	105	23	AAU10563	Rat insulin-like g
29	409	67.9	78	21	AAY98482	Pep 17 used in nuc
30	409	67.9	78	21	AAY59027	Peptide ligand Pep
31	409	67.9	78	22	AAU04272	Nuclear ligand Pep
32	409	67.9	78	22	AAB45835	Nucleic acid trans
33	398	66.1	176	17	AAR88089	Rainbow trout insu
34	384.5	63.9	186	16	AAR72472	Flatfish insulin-1
35	383	63.6	953	19	AAW56011	Recombinant botuli
36	382	63.5	70	5	AAP40034	Sequence of human
37	382	63.5	70	8	AAP70414	Sequence of oxidat
38	382	63.5	70	8	AAP71539	Sequence of human
39	382	63.5	70	10	AAP91502	New insulin-like g
40	382	63.5	70	14	AAR36846	Insulin-like growt
41	382	63.5	70	14	AAR41774	hIGF-I. Homo sapi
42	382	63.5	70	14	AAR43606	Peptide derived fr
43	382	63.5	70	15	AAR48590	Human IGF-I peptid
44	382	63.5	70	15	AAR55275	Sequence of insuli
45	382	63.5	70	16	AAR75657	Human insulin-like

ALIGNMENTS

RESULT 1

AAE02449

ID AAE02449 standard; Protein; 111 AA.

XX

AC AAE02449;

XX

DT 10-AUG-2001 (first entry)

XX

DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

XX

KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.

XX

OS Oryctolagus cuniculus.

XX

PN WO200136483-A1.

XX

PD 25-MAY-2001.

XX

PF 15-NOV-2000; 2000WO-GB04354.

XX

PR 15-NOV-1999; 99GB-0026968.

XX

PA (UNLO) UNIV COLLEGE LONDON.

XX

PI Goldspink G, Johnson I;

XX

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06400.

XX

PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -

XX

PS Claim 4; Page 54; 66pp; English.

XX

CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle

CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.

XX

SQ Sequence 111 AA;

Query Match 100.0%; Score 602; DB 22; Length 111;
Best Local Similarity 100.0%; Pred. No. 1.4e-54;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
|||
Db 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 2

AAU10561

ID AAU10561 standard; Protein; 111 AA.

XX

AC AAU10561;

XX

DT 25-FEB-2002 (first entry)

XX

DE Rabbit mechano-growth factor (MGF) polypeptide.

XX

KW Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motoneuron disorder;
KW nerve avulsion.

XX

OS Oryctolagus cuniculus.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16879.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX
 PS Claim 11; Fig 7; 65pp; English.
 XX
 CC The invention relates to the use of an insulin-like growth factor I
 CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
 CC of a medicament for treating nerve damage in the peripheral nervous
 CC system, or for treating nerve damage by localising MGF at the site of
 CC damage. The nerve damage may include severing of a nerve. The treatment
 CC may be combined with another treatment (such as a polypeptide growth
 CC factor other than MGF) that prevents or diminishes degeneration of the
 CC target organ (for example, muscle) which the damaged nerve innervates,
 CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
 CC MGF prevents or diminishes degeneration. The method is useful for
 CC treating neurological disorders, preferably motorneuron disorders. These
 CC methods can reduce motoneuron loss by 20% or greater in response to nerve
 CC avulsion. This sequence represents the rabbit MGF polypeptide.
 XX
 SQ Sequence 111 AA;

Query Match 100.0%; Score 602; DB 23; Length 111;
 Best Local Similarity 100.0%; Pred. No. 1.4e-54;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 3
 AAW23301
 ID AAW23301 standard; Protein; 121 AA.
 XX
 AC AAW23301;
 XX
 DT 14-APR-1998 (first entry)
 XX
 DE Rabbit insulin like growth factor 1.
 XX
 KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.
 XX
 OS Oryctolagus cuniculus.
 XX
 PN W09733997-A1.
 XX
 PD 18-SEP-1997.
 XX
 PF 11-MAR-1997; 97WO-GB00658.
 XX
 PR 11-MAR-1996; 96GB-0005124.
 XX
 PA (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
 XX

PI Goldspink G;
 XX
 DR WPI; 1997-470877/43.
 DR N-PSDB; AAT84893.
 XX
 PT Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases
 XX
 PS Disclosure; Fig 3; 33pp; English.
 XX
 CC A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-1 used in the present specification.
 XX
 SQ Sequence 121 AA;

Query Match 100.0%; Score 602; DB 18; Length 121;
 Best Local Similarity 100.0%; Pred. No. 1.5e-54;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 70

 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 121

RESULT 4

AAE02447

ID AAE02447 standard; Protein; 110 AA.

XX

AC AAE02447;

XX

DT 10-AUG-2001 (first entry)

XX

DE Human IGF-I isoform mechano-growth factor (MGF) protein.

XX

KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease.

XX
 OS Homo sapiens.
 XX
 PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06398.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 50-51; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 SQ Sequence 110 AA;

Query Match 95.1%; Score 572.5; DB 22; Length 110;
 Best Local Similarity 96.4%; Pred. No. 1.5e-51;
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 Qy 61 CAPLKPAAKARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 |||||||:||||||||||||||||||||||| ||| |||||||||

Db

61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110

RESULT 5

AAU10559

ID AAU10559 standard; Protein; 110 AA.

XX

AC AAU10559;

XX

DT 25-FEB-2002 (first entry)

XX

DE Human mechano-growth factor (MGF) polypeptide.

XX

KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.

XX

OS Homo sapiens.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16877.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX

PS Claim 11; Fig 5; 65pp; English.

XX

CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the human MGF polypeptide.

XX

SQ Sequence 110 AA;

Query Match 95.1%; Score 572.5; DB 23; Length 110;
Best Local Similarity 96.4%; Pred. No. 1.5e-51;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy     61 CAPLKPAKAAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
        |||||||:|||||||||||||||||||||||||| || |||||||||
Db     61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQ-RRKGSTFEEHK 110
```

RESULT 6

ABP58085

ID ABP58085 standard; Protein; 133 AA.

XX

AC ABP58085;

XX

DT 07-MAR-2003 (first entry)

XX

DE Mouse insulin-like growth factor IB.

XX

KW Insulin-like growth factor IB; IGF-IB; mouse; mRNA; assay;
KW nucleic acid detection.

XX

OS Mus musculus.

XX

PN WO200297390-A2.

XX

PD 05-DEC-2002.

XX

PF 31-MAY-2002; 2002WO-SE01056.

XX

PR 01-JUN-2001; 2001SE-0001934.

XX

PA (BIOV-) BIOVITRUM AB.

XX

PI Parrow V, Rosengren L;

XX

DR WPI; 2003-129529/12.

DR

N-PSDB; ABV76185.

XX

PT Quantitating a target nucleic acid in a sample comprises immobilizing,
PT on a solid support, a sample comprising a target nucleic acid, and
PT detecting and quantitating signals generated from the antisense and
PT sense probes -

XX

PS Example 1; Page 17; 18pp; English.

XX

CC The present sequence is the protein sequence of murine insulin-like
CC growth factor IB (IGF-IB). IGF-IB cDNA was used in an example of
CC the method of the invention to generate probes for determination of
CC IGF-IB RNA. The method comprises a quantitative hybridisation
CC assay for analysis of mRNA in a target nucleic acid (TNA), sample.

PI Krivi GG, Rotwein PS;
 XX
 DR WPI; 1987-200203/29.
 XX
 PT New pre-pro-insulin-like growth factor-1 protein - obtd. by
 PT recombinant DNA procedures for use as growth promoters for
 PT enhancing lactation, for stimulating cell proliferation etc.
 XX
 PS Claim 11; Fig 6; 59pp; English.
 XX
 CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
 CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
 CC The radiolabeled 42 mer was then employed to screen for IGF-I
 CC containing DNA sequences in a human liver cDNA library. Insulin-
 CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
 CC library by using lambdagt 11 (AAN70435, AAN70436). The human IGF-1
 CC genomic gene was isolated and mapped. It encodes at least two
 CC preproinsulin-like growth factor-1 proteins. An essentially pure
 CC preproinsulin-like growth factor-1 protein comprising the sequence
 CC of amino acids shown in Figure six is claimed (AAP70277).
 CC (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 195 AA;

Query Match 89.0%; Score 536; DB 8; Length 195;
 Best Local Similarity 96.1%; Pred. No. 1.7e-47;
 Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

 QY 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRR 102
 |||||||:||||||||||||||||||||||| |||||:
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQRRK 150

RESULT 8
 AAE02448

ID AAE02448 standard; Protein; 111 AA.
 XX
 AC AAE02448;
 XX
 DT 10-AUG-2001 (first entry)
 XX
 DE Rat IGF-I isoform, mechano-growth factor (MGF) protein.
 XX
 KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.
 XX
 OS Rattus sp.
 XX

PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06399.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 52; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 SQ Sequence 111 AA;

Query Match 85.0%; Score 512; DB 22; Length 111;
 Best Local Similarity 86.5%; Pred. No. 2.8e-45;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||| ||||||||| ||||| |||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 | ||| :|||:||||||||||| || ||:| | ||||||| |||||
 Db 61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111

RESULT 9

AAU10560

ID AAU10560 standard; Protein; 111 AA.

XX

AC AAU10560;

XX

DT 25-FEB-2002 (first entry)

XX

DE Rat mechano-growth factor (MGF) polypeptide.

XX

KW Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.

XX

OS Rattus sp.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16878.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX

PS Claim 11; Fig 6; 65pp; English.

XX

CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rat MGF polypeptide.

XX

SQ Sequence 111 AA;

Query Match 85.0%; Score 512; DB 23; Length 111;

Best Local Similarity 86.5%; Pred. No. 2.8e-45;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||
Db      1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy     61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
        |  || :|||:||||| || ||:| | ||| |||
Db     61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEE HK 111
```

RESULT 10

AAE02452

ID AAE02452 standard; Protein; 105 AA.

XX

AC AAE02452;

XX

DT 10-AUG-2001 (first entry)

XX

DE Rabbit liver-type IGF-I isoform (L.IGF-I) protein.

XX

KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX

OS Oryctolagus cuniculus.

XX

PN WO200136483-A1.

XX

PD 25-MAY-2001.

XX

PF 15-NOV-2000; 2000WO-GB04354.

XX

PR 15-NOV-1999; 99GB-0026968.

XX

PA (UNLO) UNIV COLLEGE LONDON.

XX

PI Goldspink G, Johnson I;

XX

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06405.

XX

PT Use of mechano-growth factor, an isoform of Insulin-like Growth

PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a

PT medicament for the treatment of neurological disorder -

XX

PS Disclosure; Page 60-61; 66pp; English.

XX

CC The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve

XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16884.
XX
PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -
XX
PS Disclosure; Fig 10; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motoneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rabbit insulin-like growth factor
CC I liver-type isoform (L.IGF-I) used in experiments on motoneuron loss.
XX
SQ Sequence 105 AA;

Query Match 77.7%; Score 468; DB 23; Length 105;
Best Local Similarity 100.0%; Pred. No. 9.2e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||||
Db 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86

RESULT 12

AAE02450

ID AAE02450 standard; Protein; 105 AA.

XX

AC AAE02450;

XX

DT 10-AUG-2001 (first entry)

XX

DE Human liver-type IGF-I isoform (L.IGF-I) protein.

XX

KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX

OS Homo sapiens.

XX

PN WO200136483-A1.

XX

PD 25-MAY-2001.

XX

PF 15-NOV-2000; 2000WO-GB04354.

XX

PR 15-NOV-1999; 99GB-0026968.

XX

PA (UNLO) UNIV COLLEGE LONDON.

XX

PI Goldspink G, Johnson I;

XX

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06403.

XX

PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -

XX

PS Disclosure; Fig 8; 66pp; English.

XX

CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human liver-type IGF-I isoform (L.IGF-I).
CC The L.IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.

XX

SQ Sequence 105 AA;

Query Match 77.2%; Score 465; DB 22; Length 105;
Best Local Similarity 98.8%; Pred. No. 1.9e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy

1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

|||||

Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKAAARSVRAQRHTDMPKTQK 86

Db 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

RESULT 13

AAU10562

ID AAU10562 standard; Protein; 105 AA.

XX

AC AAU10562;

XX

DT 25-FEB-2002 (first entry)

XX

DE Human insulin-like growth factor I liver-type isoform (L.IGF-I).

XX

KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion; insulin-like growth factor I liver-type isoform; L.IGF-I;

XX

OS Homo sapiens.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16882.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX

PS Disclosure; Fig 8; 65pp; English.

XX

CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for

CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the human insulin-like growth factor I
CC liver-type isoform (L.IGF-I) used in experiments on motoneuron loss.

XX

SQ Sequence 105 AA;

Query Match 77.2%; Score 465; DB 23; Length 105;
Best Local Similarity 98.8%; Pred. No. 1.9e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||
Db 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

RESULT 14

AAU09067

ID AAU09067 standard; Protein; 137 AA.

XX

AC AAU09067;

XX

DT 19-DEC-2001 (first entry)

XX

DE Human insulin-like growth factor, IGF1.

XX

KW Human; long-term memory protein; LTM; insulin-like growth factor;

KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;

KW cerebroprotective; drug discovery; therapeutic profiling;

KW learning disability; memory impairment; brain injury; epilepsy;

KW mental retardation; senile dementia; Alzheimer's disease.

XX

OS Homo sapiens.

XX

PN WO200174298-A2.

XX

PD 11-OCT-2001.

XX

PF 02-APR-2001; 2001WO-US10661.

XX

PR 31-MAR-2000; 2000US-193614P.

XX

PA (UYBR-) UNIV BROWN RESEACH FOUND.

PA (HUGH-) HUGHES HOWARD MED INST.

XX

PI Alberini CM, Bear MF;

XX

DR WPI; 2001-626335/72.

DR N-PSDB; AAS14695.

XX

PT Regulating memory consolidation in an animal comprising treating with

PT an agent that modulates activity of one or more genes from zif268,

PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF -

KW burn; wound; brain metastasis.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77
 FT /label= B domain
 FT Domain 78..89
 FT /label= C domain
 FT Domain 90..110
 FT /label= A domain
 FT Domain 111..118
 FT /label= D domain
 XX
 PN WO9516703-A1.
 XX
 PD 22-JUN-1995.
 XX
 PF 15-DEC-1994; 94WO-US14576.
 XX
 PR 15-DEC-1993; 93US-0167653.
 XX
 PA (UYJE-) UNIV JEFFERSON THOMAS.
 XX
 PI Baserga R, Jameson BA;
 XX
 DR WPI; 1995-231515/30.
 XX
 PT New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
 PT in treatment of diseases associated with undesirable cell
 PT proliferation
 XX
 PS Disclosure; Page 20-21; 28pp; English.
 XX
 CC The amino acid sequence of the insulin-like growth factor 1 pre-protein.
 CC Processing of the protein results in a 70 amino acid mature protein. The
 CC mature protein is split into 4 domains: the B domain has strong homology
 CC to the B chain of insulin, the A domain similarly has homology to the A
 CC chain of insulin. These domains are separated by a C domain and the
 CC mature protein is terminated by a D domain at the C-terminus. The D
 CC domain sequence was used to synthesis peptides (AAR83801-2) that
 CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
 CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
 CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
 CC Activated IGF-1R is associated with cellular growth and proliferation.
 CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
 CC IGF-1R and thus may be used in the treatment of disorders characterised
 CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
 CC wounds or brain metastases.
 XX
 SQ Sequence 153 AA;

Query Match 77.2%; Score 465; DB 16; Length 153;
 Best Local Similarity 98.8%; Pred. No. 2.8e-40;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||||:|||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

Search completed: December 12, 2003, 16:37:16
Job time : 35.4398 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:35:22 ; Search time 14.3765 Seconds
(without alignments)
326.679 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKGSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	602	100.0	121	3	US-09-142-583A-4	Sequence 4, Appli
2	465	77.2	137	1	US-07-953-230A-10	Sequence 10, Appl
3	465	77.2	152	3	US-08-950-720A-9	Sequence 9, Appli
4	465	77.2	153	1	US-08-219-878A-1	Sequence 1, Appli
5	465	77.2	153	5	PCT-US93-04329-1	Sequence 1, Appli
6	465	77.2	156	3	US-09-142-583A-11	Sequence 11, Appl
7	458	76.1	119	6	5405942-1	Patent No. 5405942
8	454.5	75.5	191	3	US-08-989-251-41	Sequence 41, Appl
9	454.5	75.5	191	3	US-09-340-250-41	Sequence 41, Appl
10	454.5	75.5	191	4	US-09-528-108-41	Sequence 41, Appl
11	409	67.9	78	2	US-08-460-890A-47	Sequence 47, Appl

12	409	67.9	78	3	US-08-167-641C-47	Sequence 47, Appl
13	409	67.9	78	3	US-08-460-971A-47	Sequence 47, Appl
14	409	67.9	78	3	US-08-462-040-47	Sequence 47, Appl
15	398	66.1	176	1	US-07-953-230A-9	Sequence 9, Appli
16	383	63.6	953	4	US-09-255-829-14	Sequence 14, Appl
17	382	63.5	70	1	US-07-947-035-1	Sequence 1, Appli
18	382	63.5	70	1	US-07-776-272-17	Sequence 17, Appl
19	382	63.5	70	1	US-07-958-903A-17	Sequence 17, Appl
20	382	63.5	70	1	US-08-462-018-17	Sequence 17, Appl
21	382	63.5	70	1	US-08-823-245-17	Sequence 17, Appl
22	382	63.5	70	1	US-08-482-271-1	Sequence 1, Appli
23	382	63.5	70	3	US-09-080-120A-1	Sequence 1, Appli
24	382	63.5	70	3	US-08-432-517-1	Sequence 1, Appli
25	382	63.5	70	4	US-07-963-329A-1	Sequence 1, Appli
26	382	63.5	70	4	US-09-477-924-1	Sequence 1, Appli
27	382	63.5	70	4	US-09-723-981-1	Sequence 1, Appli
28	382	63.5	70	4	US-09-723-896-1	Sequence 1, Appli
29	382	63.5	70	5	PCT-US92-09443A-1	Sequence 1, Appli
30	382	63.5	70	5	PCT-US93-11458-1	Sequence 1, Appli
31	382	63.5	70	5	PCT-US95-08925-1	Sequence 1, Appli
32	382	63.5	94	1	US-07-989-845-28	Sequence 28, Appl
33	382	63.5	94	1	US-07-989-844-12	Sequence 12, Appl
34	382	63.5	94	1	US-08-161-044-12	Sequence 12, Appl
35	382	63.5	94	1	US-08-240-121-12	Sequence 12, Appl
36	382	63.5	94	1	US-08-451-241-12	Sequence 12, Appl
37	382	63.5	94	5	PCT-US93-11297-12	Sequence 12, Appl
38	382	63.5	94	5	PCT-US93-11298-28	Sequence 28, Appl
39	382	63.5	118	3	US-09-029-267-14	Sequence 14, Appl
40	382	63.5	155	1	US-08-328-961-8	Sequence 8, Appli
41	382	63.5	155	1	US-08-462-397-8	Sequence 8, Appli
42	382	63.5	155	3	US-08-989-251-39	Sequence 39, Appl
43	382	63.5	155	3	US-09-340-250-39	Sequence 39, Appl
44	382	63.5	155	4	US-09-528-108-39	Sequence 39, Appl
45	379	63.0	70	1	US-08-180-572-5	Sequence 5, Appli

ALIGNMENTS

RESULT 1

US-09-142-583A-4

; Sequence 4, Application US/09142583A

; Patent No. 6221842

; GENERAL INFORMATION:

; APPLICANT: GOLDSPIK, GEOFFREY

; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS

; NUMBER OF SEQUENCES: 11

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: NIXON & VANDERHYE P.C.

; STREET: 1100 NORTH GLEBE ROAD

; CITY: ARLINGTON

; STATE: VA

; COUNTRY: USA

; ZIP: 22201

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

```

;      OPERATING SYSTEM: PC-DOS/MS-DOS
;      SOFTWARE: PatentIn Release #1.0, Version #1.25
;      CURRENT APPLICATION DATA:
;      APPLICATION NUMBER: US/09/142,583A
;      FILING DATE: 29-Oct-1998
;      CLASSIFICATION: <Unknown>
;      PRIOR APPLICATION DATA:
;      APPLICATION NUMBER: WO PCT/GB97/00658
;      FILING DATE: 11-MAR-1997
;      APPLICATION NUMBER: GB 9605124.8
;      FILING DATE: 11-MAR-1996
;      ATTORNEY/AGENT INFORMATION:
;      NAME: SADOFF, B. J.
;      REGISTRATION NUMBER: 36663
;      REFERENCE/DOCKET NUMBER: 117-263
;      TELECOMMUNICATION INFORMATION:
;      TELEPHONE: 7038164000
;      TELEFAX: 7038164100
;      INFORMATION FOR SEQ ID NO: 4:
;      SEQUENCE CHARACTERISTICS:
;      LENGTH: 121 amino acids
;      TYPE: amino acid
;      TOPOLOGY: linear
;      MOLECULE TYPE: protein
;      SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

```

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Query Match          100.0%;  Score 602;  DB 3;  Length 121;
Best Local Similarity 100.0%;  Pred. No. 3.7e-64;
Matches 111;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 70

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 121

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RESULT 2

US-07-953-230A-10

```

; Sequence 10, Application US/07953230A
; Patent No. 5476779

```

GENERAL INFORMATION:

```

; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404

```

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; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."
US-07-953-230A-10

```

```

Query Match          77.2%; Score 465; DB 1; Length 137;
Best Local Similarity 98.8%; Pred. No. 8.4e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
        |||||||:||||||||||||||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

```

```

RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.

```

```

; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
US-08-950-720A-9

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Query Match          77.2%; Score 465; DB 3; Length 152;
Best Local Similarity 98.8%; Pred. No. 9.6e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
        |||||||:||||||||||||||
Db      83 CAPLKPAKSARSVRAQRHTDMPKTQK 108

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RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054

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; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris
; STREET: One Liberty Place - 46th Floor
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19103
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WORDPERFECT 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/219,878A
; FILING DATE: 30-MAR-1994
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/07/881,524
; FILING DATE: 08-MAY-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Mark DeLuca
; REGISTRATION NUMBER: 33,229
; REFERENCE/DOCKET NUMBER: TJU-1240
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (215) 568-3100
; TELEFAX: (215) 568-3439
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 153
; TYPE: amino acid
; TOPOLOGY: linear
US-08-219-878A-1

```

```

Query Match          77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 9.6e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||||||:|||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
      |||||||:|||||||||||||||||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

```

```

RESULT 5
PCT-US93-04329-1
; Sequence 1, Application PC/TUS9304329
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs

```


; NUMBER OF SEQUENCES: 7
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Woodcock Washburn
 ; ADDRESSEE: Kurtz Mackiewicz & Norris
 ; STREET: One Liberty Place - 46th Floor
 ; CITY: Philadelphia
 ; STATE: PA
 ; COUNTRY: USA
 ; ZIP: 19103
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
 ; COMPUTER: IBM PS/2
 ; OPERATING SYSTEM: PC-DOS
 ; SOFTWARE: WORDPERFECT 5.0
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/US93/04329
 ; FILING DATE: 19930507
 ; CLASSIFICATION:
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: 07/881,524
 ; FILING DATE: 08-MAY-92,
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Mark DeLuca
 ; REGISTRATION NUMBER: 33,229
 ; REFERENCE/DOCKET NUMBER: TJU-0649
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (215) 568-3100
 ; TELEFAX: (215) 568-3439
 ; INFORMATION FOR SEQ ID NO: 1:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 153
 ; TYPE: AMINO ACID
 ; TOPOLOGY: linear
 PCT-US93-04329-1

Query Match 77.2%; Score 465; DB 5; Length 153;
 Best Local Similarity 98.8%; Pred. No. 9.6e-48;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||||||:||||||||||||||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 6
 US-09-142-583A-11
 ; Sequence 11, Application US/09142583A
 ; Patent No. 6221842
 ; GENERAL INFORMATION:
 ; APPLICANT: GOLDSPINK, GEOFFREY
 ; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
 ; NUMBER OF SEQUENCES: 11
 ; CORRESPONDENCE ADDRESS:

; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22201
 ;
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25
 ;
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/142,583A
 ; FILING DATE: 29-Oct-1998
 ; CLASSIFICATION: <Unknown>
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: WO PCT/GB97/00658
 ; FILING DATE: 11-MAR-1997
 ; APPLICATION NUMBER: GB 9605124.8
 ; FILING DATE: 11-MAR-1996
 ;
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36663
 ; REFERENCE/DOCKET NUMBER: 117-263
 ;
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 7038164000
 ; TELEFAX: 7038164100
 ;
 ; INFORMATION FOR SEQ ID NO: 11:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 156 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
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 ; MOLECULE TYPE: protein
 ;
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 11:
 US-09-142-583A-11

Query Match 77.2%; Score 465; DB 3; Length 156;
 Best Local Similarity 98.8%; Pred. No. 9.9e-48;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||
 Db 52 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 111
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||||||:||||||||||||||
 Db 112 CAPLKPAKSARSVRAQRHTDMPKTQK 137

RESULT 7
 5405942-1
 ;Patent No. 5405942
 ; APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,
 ; JAMES P.
 ; TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
 ; I AND II
 ; NUMBER OF SEQUENCES: 16

```

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/65,673
; FILING DATE: 16-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 630,557
; FILING DATE: 19-JUL-1984
;SEQ ID NO:1:
; LENGTH: 119
5405942-1

```

Query Match 76.1%; Score 458; DB 6; Length 119;
Best Local Similarity 97.7%; Pred. No. 4.9e-47;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 15 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDHRRLEMY 74
 QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||:|
 Db 75 CAPLKPAKSARSVRAORHTDMPKTOK 100

RESULT 8

US-08-989-251-41

; Sequence 41, Application US/08989251

; Patent No. 6017731

; GENERAL INFORMATION:

APPLICANT: Tekamp-Olson, Patricia

TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS

; TITLE OF INVENTION: PROTEINS IN YEAST

; NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP

; STREET: 3605 Glenwood Ave. Suite 310

CITY: Raleigh

; STATE: NC

COUNTRY: US

ZIP: 27622

; COMPUTER READABLE FORM:

```
; MEDIUM TYPE: Floppy disk
```

COMPUTER: IBM PC compatible

```
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
```

```

; SOFTWARE: PatentIn Release #1.0, Version #1.30

```

; CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/989,251

FILING DATE:

CLASSIFICATION:

; ATTORNEY/AGENT INFORMATION:

NAME: Spruill, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: 5784-4

; TELECOMMUNICATION INFORMATION:

TELEPHONE: 919 420 2202

TELEFAX: 919 881 3175

; INFORMATION FOR SEQ ID NO: 41:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-251-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 2.2e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKAA-RSVRAQRHTDMPKTQK 86
|||
Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 9

US-09-340-250-41

; Sequence 41, Application US/09340250

; Patent No. 6083723

; GENERAL INFORMATION:

; APPLICANT: Tekamp-Olson, Patricia

; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS

; TITLE OF INVENTION: PROTEINS IN YEAST

; NUMBER OF SEQUENCES: 41

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP

; STREET: 3605 Glenwood Ave. Suite 310

; CITY: Raleigh

; STATE: NC

; COUNTRY: US

; ZIP: 27622

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/340,250

; FILING DATE:

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 08/989,251

; FILING DATE:

; ATTORNEY/AGENT INFORMATION:

; NAME: Spruill, W. Murray

; REGISTRATION NUMBER: 32,943

; REFERENCE/DOCKET NUMBER: 5784-4

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919 420 2202

; TELEFAX: 919 881 3175

; INFORMATION FOR SEQ ID NO: 41:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 191 amino acids

```

;      TYPE:  amino acid
;      TOPOLOGY:  linear
;      MOLECULE TYPE:  protein
US-09-340-250-41

```

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 2.2e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

```

Qy      1  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGI VDECCFRSCDLRRLEMY  60
      |||
Db      86  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGI VDECCFRSCDLRRLEMY  145

Qy      61  CAPLKPAKAA-RSVRAQRHTDMPKTQK  86
      |||
Db     146  CAPLKPAKSAKRSVRAQRHTDMPKTQK  172

```

RESULT 10

US-09-528-108-41

; Sequence 41, Application US/09528108

; Patent No. 6312923

; GENERAL INFORMATION:

APPLICANT: Tekamp-Olson, Patricia

10 TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS

10 TITLE OF INVENTION: PROTEINS IN YEAST

```
; NUMBER OF SEQUENCES: 41
```

CORRESPONDENCE ADDRESS:

ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP

; STREET: 3605 Glenwood Ave. Suite 310

; CITY: Raleigh

; STATE: NC

; COUNTRY: US

ZIP: 27622

COMPUTER READABLE FORM:

```
; MEDIUM TYPE: Floppy disk
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; COMPUTER: IBM PC compatible

```
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
```

```
; SOFTWARE: PatentIn Release #1.0, Version #1.30
```

; CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/528,108

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/989,251

; FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Spruill, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: 5784-4

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919 420 2202

; TELEFAX: 919 881 3175

; INFORMATION FOR SEQ ID NO: 41:

SEQUENCE CHARACTERISTICS:

LENGTH: 191 amino acids

TYPE: amino acid


```

; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 205/012
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-167-641C-47

```

```

Query Match          67.9%; Score 409; DB 3; Length 78;
Best Local Similarity 96.1%; Pred. No. 2e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy      64 LKPAKAARSVRAQRHTD 80
      |:|:|:|||||||
Db      62 LRPARSARSVRAQRHTD 78

```

RESULT 13

```

US-08-460-971A-47
; Sequence 47, Application US/08460971A
; Patent No. 6150168
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb

```



```

; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/462,040
; FILING DATE: June 5, 1995
; CLASSIFICATION: 536
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/078
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-462-040-47

```

```

Query Match          67.9%; Score 409; DB 3; Length 78;
Best Local Similarity 96.1%; Pred. No. 2e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMYCAP 63
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy      64 LKPAKAARSVRAQRHTD 80
        |:|:|:|||||||
Db      62 LRPARSARSVRAQRHTD 78

```

```

RESULT 15
US-07-953-230A-9

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Search completed: December 12, 2003, 16:41:15
Job time : 14.3765 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:56 ; Search time 11.7018 Seconds
(without alignments)
912.229 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKGSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	%		DB	ID	Description
		Query	Match Length			
1	539	89.5	159	2	A26859	insulin-like growt
2	536	89.0	195	1	IGHU1B	insulin-like growt
3	521	86.5	133	2	A40912	insulin-like growt
4	508	84.4	181	2	A27804	insulin-like growt
5	465	77.2	137	1	IGGP1	insulin-like growt
6	465	77.2	137	2	A36552	insulin-like growt
7	465	77.2	153	1	IGHU1	insulin-like growt
8	460	76.4	122	2	PN0622	insulin-like growt
9	460	76.4	153	1	IGBO1	insulin-like growt
10	460	76.4	153	2	S12825	insulin-like growt
11	456	75.7	154	2	JC2483	insulin-like growt
12	452	75.1	138	2	S22878	insulin-like growt
13	452	75.1	154	2	A33390	insulin-like growt

14	450	74.8	127	2	A25540	insulin-like growt
15	447	74.3	153	2	B27804	insulin-like growt
16	429	71.3	127	2	B40912	insulin-like growt
17	419	69.6	153	2	A41399	insulin-like growt
18	412.5	68.5	153	2	A36079	insulin-like growt
19	404	67.1	161	2	C54270	insulin-like growt
20	402	66.8	155	2	C44012	insulin-like growt
21	402	66.8	176	2	A41396	insulin-like growt
22	402	66.8	188	2	A54270	insulin-like growt
23	402	66.8	188	2	B54270	insulin-like growt
24	398	66.1	149	2	D54270	insulin-like growt
25	398	66.1	176	2	A46244	insulin-like growt
26	301.5	50.1	126	2	S66485	insulin-like growt
27	298	49.5	193	2	A53697	insulin-like growt
28	272	45.2	214	2	B46244	insulin-like growt
29	246.5	40.9	187	2	T10897	insulin-like growt
30	242	40.2	179	2	S04858	insulin-like growt
31	236	39.2	155	1	IGBO2	insulin-like growt
32	232	38.5	180	1	IGHU2	insulin-like growt
33	231	38.4	128	2	I57671	insulin-like growt
34	229	38.0	139	2	A38612	insulin-like growt
35	229	38.0	181	2	B60738	insulin-like growt
36	227	37.7	180	2	A24913	insulin-like growt
37	226.5	37.6	183	2	S02423	insulin-like growt
38	225	37.4	93	2	I53642	insulin-like growt
39	224.5	37.3	180	1	IGRT2	insulin-like growt
40	220.5	36.6	183	2	I67610	insulin-like growt
41	213.5	35.5	79	2	I51240	insulin-like growt
42	209.5	34.8	210	2	S66484	insulin-like growt
43	197	32.7	66	2	A60740	insulin-like growt
44	175	29.1	44	2	A34049	insulin-like growt
45	159.5	26.5	50	1	INFIS	insulin - shorthor

ALIGNMENTS

RESULT 1

A26859

insulin-like growth factor IB precursor - rat

C;Species: Rattus norvegicus (Norway rat)

C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999

C;Accession: A26859

R;Shimatsu, A.; Rotwein, P.

Nucleic Acids Res. 15, 7196, 1987

A;Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5' untranslated region.

A;Reference number: A26859; MUID:88015572; PMID:3658684

A;Accession: A26859

A;Molecule type: mRNA

A;Residues: 1-159 <SHI>

A;Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424;

PIDN:CAA29480.1; PID:g56425

C;Superfamily: insulin

C;Keywords: alternative splicing; growth factor

Query Match

89.5%; Score 539; DB 2; Length 159;

A;Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1;
 PID:g32992
 A;Experimental source: anaplastic oligodendroglioma
 A;Note: sequence modified after extraction from NCBI backbone
 A;Note: the authors translated the codon CAG for residues 124 and 133 as Glu
 A;Note: sequence extracted from NCBI backbone (NCBIN:133058)
 R;Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.;
 Cuttitta, F.
 Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
 A;Title: A mitogenic peptide amide encoded within the E peptide domain of the
 insulin-like growth factor IB prohormone.
 A;Reference number: A42664; MUID:92390398; PMID:1325646
 A;Contents: annotation; IBE-1; amidated carboxyl end
 C;Comment: For an alternative splice form, see PIR:IGHU1.
 C;Genetics:
 A;Gene: GDB:IGF1
 A;Cross-references: GDB:120081; OMIM:147440
 A;Map position: 12q22-12q24.1
 A;Introns: 21/3; 74/1; 134/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-48/Domain: propeptide #status predicted <PRO>
 F;49-118/Product: insulin-like growth factor I #status predicted <MAT>
 F;49-77/Domain: insulin chain B-like #status predicted <CHB>
 F;78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
 F;90-110/Domain: insulin chain A-like #status predicted <CHA>
 F;111-118/Domain: D peptide #status predicted <CHD>
 F;119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
 <CHE>
 F;151-172/Product: insulin-like growth factor IB-E1 amide #status predicted
 <MA2>
 F;54-96,66-109,95-100/Disulfide bonds: #status predicted
 F;172/Modified site: amidated carboxyl end (Arg) (amide in mature form from
 following glycine) #status predicted

Query Match 89.0%; Score 536; DB 1; Length 195;
 Best Local Similarity 96.1%; Pred. No. 5.7e-48;
 Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
      |||

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRR 102
      |||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQRRK 150
      |||

```

RESULT 3

A40912

insulin-like growth factor I precursor form 1 - rat

C;Species: Rattus norvegicus (Norway rat)

C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999

C;Accession: A40912

R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
 Mol. Endocrinol. 1, 243-248, 1987


```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGST 106
      |||
Db      109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGES 154

```

RESULT 5

IGGP1

insulin-like growth factor I precursor - guinea pig

C;Species: Cavia porcellus (guinea pig)

C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997

C;Accession: S12719

R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.

Nucleic Acids Res. 18, 4275, 1990

A;Title: Sequence of a cDNA encoding guinea pig IGF-I.

A;Reference number: S12719; MUID:90332447; PMID:2377480

A;Accession: S12719

A;Molecule type: mRNA

A;Residues: 1-137 <BEL>

A;Cross-references: EMBL:X52951

A;Note: it is uncertain whether Met-1 or Met-8 is the initiator

C;Superfamily: insulin

C;Keywords: glycoprotein; growth factor; plasma

F;1-32/Domain: signal sequence #status predicted <SIG>

F;33-102/Product: insulin-like growth factor I #status predicted <MAT>

F;33-61/Domain: insulin chain B-like #status predicted <CHB>

F;62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>

F;74-94/Domain: insulin chain A-like #status predicted <CHA>

F;95-102/Domain: D peptide #status predicted <CHD>

F;103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>

F;124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 77.2%; Score 465; DB 1; Length 137;

Best Local Similarity 98.8%; Pred. No. 8.6e-41;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
      |||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

```

RESULT 6

A36552

insulin-like growth factor Ia precursor - human

C;Species: Homo sapiens (man)

C;Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999

C;Accession: A36552

R;Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.

Mol. Endocrinol. 4, 1914-1920, 1990

A;Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal and tumor cells.
A;Reference number: A36552; MUID:91187000; PMID:2082190
A;Accession: A36552
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-137 <TOB>
A;Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
C;Superfamily: insulin

Query Match 77.2%; Score 465; DB 2; Length 137;
Best Local Similarity 98.8%; Pred. No. 8.6e-41;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
          |||||:|||||||||||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
```

RESULT 7

IGHU1

insulin-like growth factor I precursor, splice form A [validated] - human
N;Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C;Species: Homo sapiens (man)

C;Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A92581; A23614; A93321; JT0571; A23622; A92226; A60483; S30519;
A48960; I57044; A01610

R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.

J. Biol. Chem. 261, 4828-4832, 1986

A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.

A;Reference number: A92581; MUID:86168194; PMID:2937782

A;Accession: A92581

A;Molecule type: DNA

A;Residues: 1-153 <ROT>

A;Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110

R;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma, B.N.; Jansen, M.; Sussenbach, J.S.

FEBS Lett. 195, 179-184, 1986

A;Title: Organization of the human genes for insulin-like growth factors I and II.

A;Reference number: A91356; MUID:86108862; PMID:3002851

A;Accession: A23614

A;Molecule type: DNA

A;Residues: 24-153 <DEP>

A;Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1;

PID:g33021; GB:X03421; NID:g33024; PID:g755741; GB:X03422; NID:g33027;

PID:g1335141

R;Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.;

Gabbay, K.H.; Nussbaum, A.L.; Sussenbach, J.S.; Van den Brande, J.L.

Nature 306, 609-611, 1983

A;Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.

A;Reference number: A93321; MUID:84068210; PMID:6358902
 A;Accession: A93321
 A;Molecule type: mRNA
 A;Residues: 1-153 <JAN>
 A;Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
 A;Note: Met-24 is proposed as a likely initiator
 R;Steenbergh, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
 Biochem. Biophys. Res. Commun. 175, 507-514, 1991
 A;Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
 A;Reference number: JT0571; MUID:91207342; PMID:2018498
 A;Accession: JT0571
 A;Molecule type: mRNA
 A;Residues: 1-153 <STE>
 A;Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
 R;Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
 FEBS Lett. 196, 108-112, 1986
 A;Title: Complete characterization of the human IGF-I nucleotide sequence isolated from a newly constructed adult liver cDNA library.
 A;Reference number: A23622; MUID:86108910; PMID:2935423
 A;Accession: A23622
 A;Molecule type: mRNA
 A;Residues: 1-153 <LEB>
 A;Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
 R;Rinderknecht, E.; Humbel, R.E.
 J. Biol. Chem. 253, 2769-2776, 1978
 A;Title: The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin.
 A;Reference number: A92226; MUID:78130171; PMID:632300
 A;Accession: A92226
 A;Molecule type: protein
 A;Residues: 49-118 <RIN>
 R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
 Blood 74, 1084-1092, 1989
 A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I and II by purification and N(alpha) amino acid sequence analysis.
 A;Reference number: A60483; MUID:89323462; PMID:2752153
 A;Accession: A60483
 A;Molecule type: protein
 A;Residues: 49-53, 'X', 55-65, 'X', 67-75 <KAR>
 A;Experimental source: platelet lysate
 R;Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
 submitted to the EMBL Data Library, November 1990
 A;Description: Nucleotide sequence of the human fetal brain IGF-1a.
 A;Reference number: S30519
 A;Accession: S30519
 A;Status: preliminary
 A;Molecule type: mRNA
 A;Residues: 1-153 <NOR>
 A;Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
 R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.; Sara, V.
 Cancer Res. 53, 2475-2478, 1993
 A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
 A;Reference number: A48960; MUID:93265440; PMID:8495408

A;Accession: A48960
 A;Molecule type: mRNA
 A;Residues: 1-123,'E',125-132,'E',134-153 <SAN>
 A;Cross-references: GB:X56773; GB:S61841; NID:g32989
 A;Experimental source: anaplastic oligodendroglioma
 A;Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
 A;Note: sequence inconsistent with the nucleotide translation
 R;Rall, L.B.; Scott, J.; Bell, G.I.
 Meth. Enzymol. 146, 239-248, 1987
 A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complementary DNA and analysis of expression.
 A;Reference number: I57044; MUID:88065102; PMID:3683205
 A;Accession: I57044
 A;Status: preliminary; translated from GB/EMBL/DDBJ
 A;Molecule type: mRNA
 A;Residues: 24-153 <RAL>
 A;Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
 C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity.
 C;Comment: For an alternative splice form, see PIR:IGHU1B.
 C;Genetics:
 A;Gene: GDB:IGF1
 A;Cross-references: GDB:120081; OMIM:147440
 A;Map position: 12q22-12q24.1
 A;Introns: 21/3; 74/1; 134/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-48/Domain: propeptide #status predicted <PRO>
 F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
 F;49-77/Domain: insulin chain B-like #status experimental <CHB>
 F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
 F;90-110/Domain: insulin chain A-like #status experimental <CHA>
 F;111-118/Domain: D peptide #status experimental <CHD>
 F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
 F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.2%; Score 465; DB 1; Length 153;
 Best Local Similarity 98.8%; Pred. No. 9.5e-41;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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QY      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

QY      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
      |||||:||||||||||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134
  
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RESULT 8
 PN0622
 insulin-like growth factor Ia precursor - dog (fragment)
 C;Species: Canis lupus familiaris (dog)
 C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999

C;Accession: PN0622
 R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
 Gene 130, 305-306, 1993
 A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
 A;Reference number: PN0622; MUID:93366192; PMID:8359700
 A;Accession: PN0622
 A;Molecule type: mRNA
 A;Residues: 1-122
 C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, acting primarily by stimulating cell progression through G1 into S phase.
 C;Genetics:
 A;Gene: IGF1a
 C;Superfamily: insulin
 C;Keywords: growth factor
 F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted
 <MAT>

Query Match 76.4%; Score 460; DB 2; Length 122;
 Best Local Similarity 97.7%; Pred. No. 2.5e-40;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 79
          |||

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
          |||
Db      80 CAPLKPAKSARSVRAQRHTDMPKAQK 105
          |||

```

RESULT 9

IGBO1
 insulin-like growth factor IA precursor - bovine (fragment)
 N;Alternate names: IGF-I; somatomedin C
 C;Species: Bos primigenius taurus (cattle)
 C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
 C;Accession: S12672; A25623; S00465
 R;Fotsis, T.; Murphy, C.; Gannon, F.
 Nucleic Acids Res. 18, 676, 1990
 A;Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and its IGF-1A precursor.
 A;Reference number: S12672; MUID:90175014; PMID:2308858
 A;Accession: S12672
 A;Molecule type: mRNA
 A;Residues: 1-153 <FOT>
 A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
 A;Experimental source: liver
 R;Honegger, A.; Humbel, R.E.
 J. Biol. Chem. 261, 569-575, 1986
 A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purification, primary structures, and immunological cross-reactivities.
 A;Reference number: A92585; MUID:86085881; PMID:3941093
 A;Accession: A25623
 A;Molecule type: protein
 A;Residues: 49-118 <HON>
 R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
 Biochem. J. 251, 95-103, 1988

A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological activities compared with those of a potent truncated form.
 A;Reference number: S00465; MUID:88268820; PMID:3390164
 A;Accession: S00465
 A;Molecule type: protein
 A;Residues: 49-118 <FRA>
 A;Experimental source: colostrum
 A;Note: a form of IGF-I lacking the first three residues and possessing enhanced biological activity compared with IGF-I was also sequenced
 C;Superfamily: insulin
 C;Keywords: alternative splicing; colostrum; growth factor; plasma
 F;1-20/Domain: signal sequence (fragment) #status predicted <SIG>
 F;22-48/Domain: propeptide #status predicted <PRO>
 F;49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
 F;49-77/Domain: insulin B chain-like #status experimental <DOB>
 F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
 F;90-110/Domain: insulin A chain-like #status experimental <DOA>
 F;111-118/Domain: D peptide #status experimental <CHD>
 F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
 F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 76.4%; Score 460; DB 1; Length 153;
 Best Local Similarity 97.7%; Pred. No. 3.1e-40;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
      |||||||:||||||||||| ||
Db      109 CAPLKPAKSARSVRAQRHTDMPKAQK 134
  
```

RESULT 10

S12825

insulin-like growth factor I precursor - pig

N;Alternate names: somatomedin C

C;Species: Sus scrofa domestica (domestic pig)

C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999

C;Accession: S12825; S21488; A34938; A60738

R;Mueller, M.; Brem, G.

Nucleic Acids Res. 18, 364, 1990

A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region, exons 1 and 2 and mRNA.

A;Reference number: S12825; MUID:90221822; PMID:2326169

A;Accession: S12825

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-153 <MUE>

A;Cross-references: EMBL:X52388

R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.

submitted to the EMBL Data Library, November 1989

A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-coding region.

A;Reference number: S21488
A;Accession: S21488
A;Molecule type: DNA
A;Residues: 1-21 <DIC>
A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid cloning and uterine expression of messenger ribonucleic acid encoding evolutionarily conserved IGF-I peptides.
A;Reference number: A34938; MUID:89096956; PMID:3211153
A;Accession: A34938
A;Molecule type: mRNA
A;Residues: 'Y',21-153 <TAV>
A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin-like growth factor-I and -II.
A;Reference number: A60738; MUID:90039035; PMID:2809477
A;Accession: A60738
A;Molecule type: protein
A;Residues: 49-117,'X' <FRA>
C;Genetics:
A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 76.4%; Score 460; DB 2; Length 153;
Best Local Similarity 97.7%; Pred. No. 3.1e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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QY      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 108

QY      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
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Db      109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

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RESULT 11

JC2483

insulin-like growth factor-I precursor - goat

C;Species: Capra aegagrus hircus (domestic goat)

C;Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999

C;Accession: JC2483

R;Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.

Biosci. Biotechnol. Biochem. 59, 87-92, 1995

A;Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) gene: Diversity in transcription and post-transcription.

A;Reference number: JC2483; MUID:95201385; PMID:7765981

A;Accession: JC2483

A;Molecule type: mRNA

A;Residues: 1-154 <MIK>
A;Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118;
DDBJ:D26119
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
F;1-49/Domain: signal sequence #status predicted <SIG>
F;50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F;120-154/Region: E domain

Query Match 75.7%; Score 456; DB 2; Length 154;
Best Local Similarity 96.5%; Pred. No. 8.1e-40;
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

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Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
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Db     110 CAPLKPTKSARSVRAQRHTDMPKAQK 135
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RESULT 12

S22878

insulin-like growth factor I precursor, splice form 2 - sheep

C;Species: *Ovis orientalis aries*, *Ovis ammon aries* (domestic sheep)

C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999

C;Accession: S22878; S07198

R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and identification of a putative promoter.

A;Reference number: S22877; MUID:91197361; PMID:2015053

A;Accession: S22878

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-138 <DIC>

A;Cross-references: EMBL:X51358

R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.

A;Reference number: S07198; MUID:89136887; PMID:2537174

A;Accession: S07198

A;Molecule type: protein

A;Residues: 34-103 <FRA>

A;Experimental source: fetal plasma

C;Genetics:

A;Introns: 5/3; 59/1; 119/3

C;Superfamily: insulin

C;Keywords: alternative splicing; growth factor; plasma

F;7-33/Domain: propeptide #status predicted <PRO>

F;34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>

F;34-62/Domain: insulin chain B-like #status predicted <DOB>

F;63-74/Domain: insulin connecting peptide-like #status predicted <CHC>

A;Accession: S07198
 A;Molecule type: protein
 A;Residues: 50-119 <FRA>
 A;Experimental source: fetal plasma
 C;Genetics:
 A;Introns: 21/3; 75/1; 135/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-49/Domain: propeptide #status predicted <PRO>
 F;50-119/Product: insulin-like growth factor I (active) #status experimental
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 F;50-78/Domain: insulin chain B-like #status predicted <DOB>
 F;79-90/Domain: insulin connecting peptide-like #status predicted <CHC>
 F;91-111/Domain: insulin chain A-like #status predicted <DOA>
 F;112-119/Domain: peptide D #status predicted <CHD>
 F;120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
 <CTP>
 F;55-97,67-110,96-101/Disulfide bonds: #status predicted

Query Match 75.1%; Score 452; DB 2; Length 154;
 Best Local Similarity 96.5%; Pred. No. 2.1e-39;
 Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109
          |||

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
          |||
Db      110 CAPLKAASARSVRAQRHTDMPKAQK 135
          |||
  
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RESULT 14

A25540

insulin-like growth factor IA precursor - mouse

N;Alternate names: IGF-IA; somatomedin C

C;Species: Mus musculus (house mouse)

C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999

C;Accession: A25540; I55295; I59090; B25540

R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A;Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factor I precursors.

A;Reference number: A93643; MUID:87040760; PMID:3774549

A;Accession: A25540

A;Molecule type: mRNA

A;Residues: 1-127 <BEL>

A;Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802

R;Tollefsen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.
 J. Biol. Chem. 264, 13810-13817, 1989

A;Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I, the IGF-I receptor, and an IGF binding protein during myoblast differentiation.

A;Reference number: I55295; MUID:89340472; PMID:2474537

A;Accession: I55295

A;Status: preliminary; translated from GB/EMBL/DDBJ

R;Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund, P.K.

DNA 6, 325-330, 1987

A;Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor.

A;Reference number: A27849; MUID:88003970; PMID:3652906

A;Accession: A27849

A;Molecule type: mRNA

A;Residues: 27-153 <CAS>

A;Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752

R;Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.

Agric. Biol. Chem. 54, 1599-1601, 1990

A;Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth factor-I mRNA.

A;Reference number: JH0133; MUID:91103966; PMID:1368571

A;Accession: JH0133

A;Molecule type: mRNA

A;Residues: 27-153 <KAT>

A;Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781

A;Experimental source: liver

R;Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.

Endocrinology 121, 684-691, 1987

A;Title: Identification, characterization, and regulation of a rat complementary deoxyribonucleic acid which encodes insulin-like growth factor-I.

A;Reference number: A28504; MUID:87246437; PMID:3595538

A;Accession: A28504

A;Molecule type: mRNA

A;Residues: 46-153 <MUR>

A;Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325

R;Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.

Agric. Biol. Chem. 54, 2225-2230, 1990

A;Title: Evidence of introduction by molecular cloning of artificial inverted sequence at the 5'terminus of the sense strand of rat insulin-like growth factor-I cDNA.

A;Reference number: JN0088; MUID:91136779; PMID:1368576

A;Accession: JN0088

A;Molecule type: mRNA

A;Residues: 'MSAPP',22-153 <KA2>

A;Experimental source: liver

A;Note: the authors present evidence that this mRNA may contain an artifactual inversion

R;Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.; Zapf, J.

J. Biol. Chem. 264, 5616-5621, 1989

A;Title: Primary structure of rat insulin-like growth factor-I and its biological activities.

A;Reference number: A32857; MUID:89174609; PMID:2538424

A;Accession: A32857

A;Molecule type: protein

A;Residues: 49-118 <TAM>

R;Canalis, E.; McCarthy, T.; Centrella, M.

Endocrinology 122, 22-27, 1988

A;Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C) from cultures of fetal rat calvariae.

A;Reference number: A61096; MUID:88082445; PMID:3335205

A;Accession: A61096

A;Molecule type: protein

A;Residues: 49-53,'X',55-65 <CAN>

C;Superfamily: insulin

C;Keywords: alternative splicing; growth factor

F;49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 74.3%; Score 447; DB 2; Length 153;

Best Local Similarity 94.2%; Pred. No. 6.9e-39;

Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

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Db 49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86

||||| :|||:|||||

Db 109 CAPLKPTKSARSIRAQRHTDMPKTQK 134

Search completed: December 12, 2003, 16:40:19

Job time : 11.7018 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:39:37 ; Search time 24.0723 Seconds
(without alignments)
857.591 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKGSTFEEHK 111

Scoring table: BLOSUM62
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Searched: 684280 seqs, 185983659 residues

Total number of hits satisfying chosen parameters: 684280

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications_AA:*

- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
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- 9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*
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- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
- 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result	%	Query					
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1	602	100.0	111	9	US-09-852-261-6	Sequence 6, Appli
2	572.5	95.1	110	9	US-09-852-261-2	Sequence 2, Appli
3	539	89.5	133	15	US-10-161-088-2	Sequence 2, Appli
4	512	85.0	111	9	US-09-852-261-4	Sequence 4, Appli
5	468	77.7	105	9	US-09-852-261-14	Sequence 14, Appl
6	465	77.2	105	9	US-09-852-261-10	Sequence 10, Appl
7	465	77.2	137	12	US-10-251-661-8	Sequence 8, Appli
8	465	77.2	153	10	US-09-919-497-74	Sequence 74, Appl
9	465	77.2	153	15	US-10-136-639-3	Sequence 3, Appli
10	465	77.2	153	15	US-10-207-655-55	Sequence 55, Appl
11	460	76.4	105	15	US-10-238-114-3	Sequence 3, Appli
12	460	76.4	153	15	US-10-238-114-2	Sequence 2, Appli
13	454.5	75.5	191	9	US-09-921-398-41	Sequence 41, Appl
14	454.5	75.5	191	15	US-10-280-826-41	Sequence 41, Appl
15	420	69.8	105	9	US-09-852-261-12	Sequence 12, Appl
16	383	63.6	953	12	US-10-241-596-14	Sequence 14, Appl
17	382	63.5	70	10	US-09-848-664-29	Sequence 29, Appl
18	382	63.5	70	10	US-09-848-664-30	Sequence 30, Appl
19	382	63.5	70	10	US-09-903-327A-8	Sequence 8, Appli
20	382	63.5	70	11	US-09-858-935B-3	Sequence 3, Appli
21	382	63.5	70	12	US-10-444-326-1	Sequence 1, Appli
22	382	63.5	70	14	US-10-028-410-1	Sequence 1, Appli
23	382	63.5	70	14	US-10-066-009A-1	Sequence 1, Appli
24	382	63.5	70	15	US-10-136-639-1	Sequence 1, Appli
25	382	63.5	70	15	US-10-136-841-7	Sequence 7, Appli
26	382	63.5	118	15	US-10-179-046-14	Sequence 14, Appl
27	382	63.5	155	9	US-09-921-398-39	Sequence 39, Appl
28	382	63.5	155	15	US-10-280-826-39	Sequence 39, Appl
29	382	63.5	510	10	US-09-903-327A-12	Sequence 12, Appl
30	375	62.3	91	12	US-10-323-046-42	Sequence 42, Appl
31	314	52.2	68	12	US-10-339-740-218	Sequence 218, App
32	300	49.8	56	14	US-10-066-009A-5	Sequence 5, Appli
33	235	39.0	180	15	US-10-207-655-57	Sequence 57, Appl
34	232	38.5	156	10	US-09-972-809-7	Sequence 7, Appli
35	232	38.5	180	15	US-10-081-119-38	Sequence 38, Appl
36	232	38.5	180	15	US-10-136-841-2	Sequence 2, Appli
37	232	38.5	180	15	US-10-097-340-145	Sequence 145, App
38	223.5	37.1	46	9	US-09-205-658-138	Sequence 138, App
39	223.5	37.1	46	9	US-09-205-658-139	Sequence 139, App
40	223.5	37.1	46	12	US-09-963-693-138	Sequence 138, App
41	223.5	37.1	46	12	US-09-963-693-139	Sequence 139, App
42	220	36.5	67	14	US-10-066-009A-2	Sequence 2, Appli
43	220	36.5	67	15	US-10-136-639-2	Sequence 2, Appli
44	220	36.5	67	15	US-10-136-841-8	Sequence 8, Appli
45	220	36.5	70	15	US-10-136-841-4	Sequence 4, Appli

ALIGNMENTS

RESULT 1

US-09-852-261-6

; Sequence 6, Application US/09852261

; Patent No. US20020083477A1

; GENERAL INFORMATION:

; APPLICANT: GOLDSPIK, GEOFFREY

; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

Query Match 100.0%; Score 602; DB 9; Length 111;
Best Local Similarity 100.0%; Pred. No. 6.5e-61;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
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Db      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
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RESULT 2

US-09-852-261-2
; Sequence 2, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-2

Query Match 95.1%; Score 572.5; DB 9; Length 110;
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Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

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; ORGANISM: Rattus sp.
US-09-852-261-4

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Best Local Similarity 86.5%; Pred. No. 1.2e-50;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

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Db      1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
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RESULT 5

US-09-852-261-14

; Sequence 14, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
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; LENGTH: 105
; TYPE: PRT
; ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

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RESULT 6

US-09-852-261-10

; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO

Db 33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92
Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
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Db 93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

RESULT 8

US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US20020106662A1
; GENERAL INFORMATION:
; APPLICANT: Mutter, George L.
; TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
; FILE REFERENCE: B0801/7225
; CURRENT APPLICATION NUMBER: US/09/919,497
; CURRENT FILING DATE: 2001-07-31
; PRIOR APPLICATION NUMBER: US 60/221,735
; PRIOR FILING DATE: 2000-07-31
; NUMBER OF SEQ ID NOS: 100
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
; LENGTH: 153
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-919-497-74

Query Match 77.2%; Score 465; DB 10; Length 153;
Best Local Similarity 98.8%; Pred. No. 3.9e-45;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||||:|||||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||||||:|||||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 9

US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
; APPLICANT: LeBowitz, Jonathan
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS
THE BLOOD BRAIN
; TITLE OF INVENTION: BARRIER
; FILE REFERENCE: SYM-008
; CURRENT APPLICATION NUMBER: US/10/136,639
; CURRENT FILING DATE: 2002-09-06
; PRIOR APPLICATION NUMBER: US 60/329,650
; PRIOR FILING DATE: 2001-10-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3

; LENGTH: 153
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-136-639-3

Query Match 77.2%; Score 465; DB 15; Length 153;
Best Local Similarity 98.8%; Pred. No. 3.9e-45;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 10

US-10-207-655-55
; Sequence 55, Application US/10207655
; Publication No. US20030118592A1
; GENERAL INFORMATION:
; APPLICANT: Ledbetter, Jeffrey A.
; APPLICANT: Hayden-Ledbetter, Martha S.
; TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS
; FILE REFERENCE: 390069.401C1
; CURRENT APPLICATION NUMBER: US/10/207,655
; CURRENT FILING DATE: 2002-07-25
; NUMBER OF SEQ ID NOS: 426
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 55
; LENGTH: 153
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-207-655-55

Query Match 77.2%; Score 465; DB 15; Length 153;
Best Local Similarity 98.8%; Pred. No. 3.9e-45;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
|||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 11

US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
; APPLICANT: Merial
; APPLICANT: ANDREONI, Christine Michele

; TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
 FELINE RETROVIRUS
 ; FILE REFERENCE: 454313-3165.1
 ; CURRENT APPLICATION NUMBER: US/10/238,114
 ; CURRENT FILING DATE: 2002-09-10
 ; PRIOR APPLICATION NUMBER: FR 01 11736
 ; PRIOR FILING DATE: 2001-09-11
 ; PRIOR APPLICATION NUMBER: US 60/318,666
 ; PRIOR FILING DATE: 2001-09-12
 ; NUMBER OF SEQ ID NOS: 20
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 3
 ; LENGTH: 105
 ; TYPE: PRT
 ; ORGANISM: Felis catus
 US-10-238-114-3

Query Match 76.4%; Score 460; DB 15; Length 105;
 Best Local Similarity 97.7%; Pred. No. 9.2e-45;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 ||||||||:|||||||||||
 Db 61 CAPLKPAKSARSVRAQRHTDMPKAQK 86

RESULT 12
 US-10-238-114-2
 ; Sequence 2, Application US/10238114
 ; Publication No. US20030100073A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Merial
 ; APPLICANT: ANDREONI, Christine Michele
 ; TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
 FELINE RETROVIRUS
 ; FILE REFERENCE: 454313-3165.1
 ; CURRENT APPLICATION NUMBER: US/10/238,114
 ; CURRENT FILING DATE: 2002-09-10
 ; PRIOR APPLICATION NUMBER: FR 01 11736
 ; PRIOR FILING DATE: 2001-09-11
 ; PRIOR APPLICATION NUMBER: US 60/318,666
 ; PRIOR FILING DATE: 2001-09-12
 ; NUMBER OF SEQ ID NOS: 20
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 2
 ; LENGTH: 153
 ; TYPE: PRT
 ; ORGANISM: Felis catus
 US-10-238-114-2

Query Match 76.4%; Score 460; DB 15; Length 153;
 Best Local Similarity 97.7%; Pred. No. 1.4e-44;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||:|||||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

RESULT 13

US-09-921-398-41

; Sequence 41, Application US/09921398
 ; Patent No. US20020055169A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Tekamp-Olson, Patricia
 ; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
 ; PROTEINS IN YEAST
 ; NUMBER OF SEQUENCES: 41
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
 ; STREET: 3605 Glenwood Ave. Suite 310
 ; CITY: Raleigh
 ; STATE: NC
 ; COUNTRY: US
 ; ZIP: 27622
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/921,398
 ; FILING DATE: 02-Aug-2001
 ; CLASSIFICATION: <Unknown>
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Spruill, W. Murray
 ; REGISTRATION NUMBER: 32,943
 ; REFERENCE/DOCKET NUMBER: 5784-4
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 919 420 2202
 ; TELEFAX: 919 881 3175
 ; INFORMATION FOR SEQ ID NO: 41:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 191 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 41:
 US-09-921-398-41

Query Match 75.5%; Score 454.5; DB 9; Length 191;
 Best Local Similarity 97.7%; Pred. No. 7.9e-44;
 Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||

Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKAA-RSVRAQRHTDMPKTQK 86
 |||||:| |||||

Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 14

US-10-280-826-41

; Sequence 41, Application US/10280826
 ; Publication No. US20030077831A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Tekamp-Olson, Patricia
 ; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
 ; PROTEINS IN YEAST
 ; NUMBER OF SEQUENCES: 41
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
 ; STREET: 3605 Glenwood Ave. Suite 310
 ; CITY: Raleigh
 ; STATE: NC
 ; COUNTRY: US
 ; ZIP: 27622
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/10/280,826
 ; FILING DATE: 25-Oct-2002
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/989,251
 ; FILING DATE: <Unknown>
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Spruill, W. Murray
 ; REGISTRATION NUMBER: 32,943
 ; REFERENCE/DOCKET NUMBER: 5784-4
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 919 420 2202
 ; TELEFAX: 919 881 3175
 ; INFORMATION FOR SEQ ID NO: 41:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 191 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 41:
 US-10-280-826-41

Query Match 75.5%; Score 454.5; DB 15; Length 191;
 Best Local Similarity 97.7%; Pred. No. 7.9e-44;
 Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||

Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 145

QY 61 CAPLKPAKAA-RSVRAQRHTDMPKTQK 86
 |||||:| |||||

Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 15
 US-09-852-261-12
 ; Sequence 12, Application US/09852261
 ; Patent No. US20020083477A1
 ; GENERAL INFORMATION:
 ; APPLICANT: GOLDSPINK, GEOFFREY
 ; APPLICANT: TERENGHI, GIORGIO
 ; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
 ; FILE REFERENCE: 117-351
 ; CURRENT APPLICATION NUMBER: US/09/852,261
 ; CURRENT FILING DATE: 2001-05-10
 ; PRIOR APPLICATION NUMBER: GB 0011278.9
 ; PRIOR FILING DATE: 2000-05-10
 ; NUMBER OF SEQ ID NOS: 14
 ; SOFTWARE: PatentIn Ver. 2.1
 ; SEQ ID NO 12
 ; LENGTH: 105
 ; TYPE: PRT
 ; ORGANISM: Rattus sp.
 US-09-852-261-12

Query Match 69.8%; Score 420; DB 9; Length 105;
 Best Local Similarity 89.5%; Pred. No. 3.3e-40;
 Matches 77; Conservative 2; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||:| |||||

Db 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 | ||:|:|

Db 61 CVRCKPTKSARSIRAQRHTDMPKTQK 86

Search completed: December 12, 2003, 16:51:59
 Job time : 24.0723 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:01 ; Search time 28.753 Seconds
(without alignments)
996.203 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKGSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result	%	Query				
No.	Score	Match	Length	DB	ID	Description

1	564.5	93.8	139	4	Q13429	Q13429 homo sapien
2	501	83.2	165	11	Q8CAR0	Q8car0 mus musculu
3	465	77.2	130	4	Q9NP10	Q9np10 homo sapien
4	465	77.2	137	4	Q14620	Q14620 homo sapien
5	462	76.7	139	6	P79167	P79167 equus cabal
6	460	76.4	133	6	Q9N1C1	Q9n1c1 bos taurus
7	450	74.8	153	11	Q8C4U6	Q8c4u6 mus musculu
8	447	74.3	127	11	P97899	P97899 rattus sp.
9	419	69.6	153	13	O93380	O93380 meleagris g
10	404	67.1	161	13	Q91230	Q91230 oncorhynchu
11	403	66.9	178	13	Q9IBI0	Q9ibi0 cyprinus ca
12	402	66.8	145	13	Q91475	Q91475 salmo salar
13	402	66.8	155	13	Q91162	Q91162 oncorhynchu
14	402	66.8	188	13	P81268	P81268 oncorhynchu
15	402	66.8	188	13	Q91965	Q91965 oncorhynchu
16	398	66.1	149	13	Q91231	Q91231 oncorhynchu
17	396	65.8	116	13	Q91161	Q91161 oncorhynchu
18	395	65.6	117	13	Q91476	Q91476 salmo salar
19	388	64.5	161	13	Q90VV9	Q90vv9 brachydanio
20	384.5	63.9	186	13	O93527	O93527 paralichthy
21	384	63.8	159	13	O93607	O93607 paralichthy
22	383	63.6	161	13	Q9PWK2	Q9pwk2 carassius a
23	380	63.1	117	13	Q9I9I4	Q9i9i4 ctenopharyn
24	380	63.1	161	13	Q9YI82	Q9yi82 carassius a
25	379	63.0	161	13	Q98SR6	Q98sr6 megalobrama
26	377.5	62.7	186	13	Q9PSX5	Q9psx5 paralichthy
27	377	62.6	182	13	O73720	O73720 oreochromis
28	377	62.6	182	13	P79824	P79824 oreochromis
29	376.5	62.5	182	13	O42289	O42289 oreochromis
30	376.5	62.5	185	13	O57436	O57436 paralichthy
31	363	60.3	185	13	Q9YI57	Q9yi57 acanthopagr
32	358	59.5	66	6	Q9N1S6	Q9n1s6 capreolus c
33	354.5	58.9	184	13	O42336	O42336 myoxocephal
34	336.5	55.9	69	6	O02807	O02807 bubalus bub
35	305	50.7	57	6	Q28236	Q28236 cervus elap
36	301.5	50.1	126	13	Q91442	Q91442 squalus aca
37	278	46.2	62	13	Q9IAA0	Q9iaa0 carassius a
38	271.5	45.1	215	13	O73721	O73721 tilapia sp.
39	268.5	44.6	215	13	O42429	O42429 lates calca
40	261	43.4	207	13	Q90XD0	Q90xd0 cyprinus ca
41	256	42.5	212	13	Q8JIE4	Q8jie4 brachydanio
42	254.5	42.3	187	13	O57687	O57687 taenopygia
43	246.5	40.9	187	13	P79890	P79890 gallus gall
44	244	40.5	132	13	Q8AV14	Q8av14 petromyzon
45	239.5	39.8	217	13	Q90WW4	Q90ww4 xenopus lae

ALIGNMENTS

RESULT 1

Q13429

ID Q13429 PRELIMINARY; PRT; 139 AA.

AC Q13429;

DT 01-NOV-1996 (TrEMBLrel. 01, Created)

DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor-I (Fragment).
 GN IGF-I.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=95237119; PubMed=7720641;
 RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
 RT "An alternatively spliced human insulin-like growth factor-I
 RT transcript with hepatic tissue expression that diverts away from the
 RT mitogenic IBE1 peptide."
 RL Endocrinology 136:1939-1944(1995).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; U40870; AAA96152.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT NON_TER 1 1
 SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 93.8%; Score 564.5; DB 4; Length 139;
 Best Local Similarity 95.5%; Pred. No. 1.8e-59;
 Matches 106; Conservative 1; Mismatches 3; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 30 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 89

 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 |||||:|||||||||||||||||||||| ||| |||||||||
 Db 90 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEERK 139

RESULT 2

Q8CAR0

ID Q8CAR0 PRELIMINARY; PRT; 165 AA.
 AC Q8CAR0;
 DT 01-MAR-2003 (TrEMBLrel. 23, Created)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Unknown EST.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Thymus;
 RX MEDLINE=22354683; PubMed=12466851;
 RA The FANTOM Consortium,
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;

RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573 (2002).
DR EMBL; AK038119; BAC29934.1; -.
SQ SEQUENCE 165 AA; 18473 MW; 2CE0D3DA981C93F8 CRC64;

Query Match 83.2%; Score 501; DB 11; Length 165;
Best Local Similarity 90.4%; Pred. No. 8.2e-52;
Matches 94; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 33 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRK 104
||||| : |||||
Db 93 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRK 136

RESULT 3

Q9NP10

ID Q9NP10 PRELIMINARY; PRT; 130 AA.
AC Q9NP10;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE IGF1 protein precursor.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: isolation of
RT complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248 (1987).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -.
DR HSSP; P01343; 2GF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL 1 25 POTENTIAL.
FT CHAIN 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAAECFA0352D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 130;
Best Local Similarity 98.8%; Pred. No. 1.2e-47;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 85

QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||
 Db 86 CAPLKPAKSARSVRAQRHTDMPKTQK 111

RESULT 4

Q14620

ID Q14620 PRELIMINARY; PRT; 137 AA.
 AC Q14620;
 DT 01-NOV-1996 (TReMBLrel. 01, Created)
 DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
 DT 01-MAR-2003 (TReMBLrel. 23, Last annotation update)
 DE Insulin-like growth factor I precursor.
 GN IGF1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91187000; PubMed=2082190;
 RA Tobin G., Yee D., Brunner N., Rotwein P.;
 RT "A novel human insulin-like growth factor I messenger RNA is expressed
 RT in normal and tumor cells.";
 RL Mol. Endocrinol. 4:1914-1920(1990).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; M37484; AAA52789.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00277; INSULINB.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Signal.
 FT SIGNAL 1 32 POTENTIAL.
 FT CHAIN 33 137 INSULIN-LIKE GROWTH FACTOR I.
 SQ SEQUENCE 137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 137;
 Best Local Similarity 98.8%; Pred. No. 1.3e-47;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92

QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||
 Db 93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

RESULT 5

P79167

ID P79167 PRELIMINARY; PRT; 139 AA.

AC P79167;

DT 01-MAY-1997 (TrEMBLrel. 03, Created)

DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C)

DE (Fragments).

GN IGF1.

OS Equus caballus (Horse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.

OX NCBI_TaxID=9796;

RN [1]

RP SEQUENCE OF 1-122 FROM N.A.

RC TISSUE=LIVER;

RX MEDLINE=97013467; PubMed=8860303;

RA Otte K., Rozell B., Gessbo A., Engstrom W.;

RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA

RT and its expression in fetal and adult tissues.";

RL Gen. Comp. Endocrinol. 102:11-15(1996).

RN [2]

RP SEQUENCE OF 123-139 FROM N.A.

RA Nixon A.J., Toland B.D., Sandell L.J.;

RL Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: SECRETED.

CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND

CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING

CC (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; U28070; AAA68952.1; -.

DR EMBL; U85271; AAB47484.1; -.

DR HSSP; P01343; 2GF1.

DR InterPro; IPR004825; Ins/IGF/relax.

DR PRINTS; PR00277; INSULINB.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

KW Insulin family; Growth factor; Signal.

FT SIGNAL 1 ?

FT PROPEP ? 48 BY SIMILARITY.

FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.

FT DOMAIN 49 77 B.

FT DOMAIN 78 89 C.

FT DOMAIN 90 110 A.

FT DOMAIN 111 118 D.

FT PROPEP 119 >139 E PEPTIDE.

FT NON_CONS 122 123

FT DISULFID 54 96 BY SIMILARITY.

FT DISULFID 66 109 BY SIMILARITY.

FT DISULFID 95 100 BY SIMILARITY.

FT NON_TER 139 139

SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match 76.7%; Score 462; DB 6; Length 139;

Best Local Similarity 85.4%; Pred. No. 3.1e-47;
Matches 88; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRK 103
        |||||||:|||||          ||||||| | |||||
Db     109 CAPLKPAKSARSVR-----YQPPSTNKKTKLQRRRK 139
```

RESULT 6

Q9N1C1

ID Q9N1C1 PRELIMINARY; PRT; 133 AA.
AC Q9N1C1;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Insulin-like growth factor I (Fragment).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RA Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I.,
RA Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT "A primary screen of the bovine genome for quantitative trait loci
RT affecting twinning rate.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF210387; AAF72409.1; -.
DR EMBL; AF210385; AAF72409.1; JOINED.
DR EMBL; AF210386; AAF72409.1; JOINED.
DR HSSP; P01343; 2GF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER 1 1
SQ SEQUENCE 133 AA; 14674 MW; A6991DBC75C103B CRC64;

Query Match 76.4%; Score 460; DB 6; Length 133;
Best Local Similarity 97.7%; Pred. No. 5.1e-47;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     29 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 88

Qy     61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
        |||||||:||||||||||||| ||
```

Db 89 CAPLKPAKSARSVRAQRHTDMPKAQK 114

RESULT 7

08C4U6

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ID      Q8C4U6      PRELIMINARY;      PRT;      153 AA.
AC      Q8C4U6;
DT      01-MAR-2003 (TrEMBLrel. 23, Created)
DT      01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Unknown EST.
OS      Mus musculus (Mouse).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX      NCBI_TaxID=10090;
RN      [1]
RP      SEQUENCE FROM N.A.
RC      STRAIN=C57BL/6J; TISSUE=Cerebellum;
RX      MEDLINE=22354683; PubMed=12466851;
RA      The FANTOM Consortium,
RA      the RIKEN Genome Exploration Research Group Phase I & II Team;
RT      "Analysis of the mouse transcriptome based on functional annotation of
RT      60,770 full-length cDNAs.";
RL      Nature 420:563-573(2002).
DR      EMBL; AK081019; BAC38117.1; -.
SQ      SEQUENCE      153 AA;  17093 MW;  967596AEAC0CA387 CRC64;

```

Query Match 74.8%; Score 450; DB 11; Length 153;
Best Local Similarity 95.3%; Pred. No. 9.2e-46;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

```

Qy      1  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY  60
      ||||||||||||||||| ||||||||||||||||| ||||||||||||||||| |||||||
Db      49  GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY  108

Qy      61  CAPLKPAKAARSVRAQRHTDMPKTQK  86
      |||||||:|||||||||||
Db     109  CAPLKPTKAARSIRAORHTDMPKTOK  134

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RESULT 8

P97899

```
ID      P97899          PRELIMINARY;          PRT;    127 AA.
AC      P97899;
DT      01-MAY-1997 (TrEMBLrel. 03, Created)
DT      01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Insulin-like growth factor I.
OS      Rattus sp.
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX      NCBI_TaxID=10118;
RN      [1]
RP      PARTIAL SEQUENCE FROM N.A.
RX      MEDLINE=87222423; PubMed=3034909;
RA      Shimatsu A., Rotwein P.;
RT      "Mosaic evolution of the insulin-like growth factors.";
```

RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat insulin-
 RT like growth factor-I mRNA."
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; D00698; BAA00604.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00277; INSULINB.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT CHAIN 23 92 POTENTIAL.
 SQ SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5CB7 CRC64;

Query Match 74.3%; Score 447; DB 11; Length 127;
 Best Local Similarity 94.2%; Pred. No. 1.7e-45;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||
 Db 23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82
 Qy 61 CAPLKPKAKAARSVRAQRHTDMPKTQK 86
 ||||| :|||:|||||
 Db 83 CAPLKPTKSARSIRAQRHTDMPKTQK 108

RESULT 9

O93380

ID O93380 PRELIMINARY; PRT; 153 AA.
 AC O93380;
 DT 01-NOV-1998 (TrEMBLrel. 08, Created)
 DT 01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Insulin-like growth factor-I precursor.
 GN IGF1.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
 OX NCBI_TaxID=9103;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Big 6 ML Tom; TISSUE=Liver;
 RA Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
 RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";
 RL Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; AF074980; AAC26006.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00277; INSULINB.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Signal.
 FT SIGNAL 1 48 POTENTIAL.
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR-I.
 SQ SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;

Query Match 69.6%; Score 419; DB 13; Length 153;
 Best Local Similarity 88.4%; Pred. No. 4.6e-42;
 Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||||||||:||||||||||| |||||||:|||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSRRLLHHKGIVDECCFQSCDLRRLEMY 108
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||:| | |:||||||||||| ||
 Db 109 CAPIKPPKSARSVRAQRHTDMPKAQK 134

RESULT 10

Q91230

ID Q91230 PRELIMINARY; PRT; 161 AA.
 AC Q91230;
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Insulin-like growth factor-I.
 GN IGF-I.
 OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=74940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Big Qualicum River; TISSUE=Liver;
 RX MEDLINE=93247592; PubMed=7683374;
 RA Wallis A.E., Devlin R.H.;
 RT "Duplicate insulin-like growth factor-I genes in salmon display
 alternative splicing pathways.";
 RL Mol. Endocrinol. 7:409-422(1993).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Big Qualicum River; TISSUE=Liver;
 RA Devlin R.H.;
 RL Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; U15961; AAA67267.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00277; INSULINB.
 DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;

Query Match 67.1%; Score 404; DB 13; Length 161;
Best Local Similarity 69.4%; Pred. No. 3e-40;
Matches 77; Conservative 13; Mismatches 15; Indels 6; Gaps 2;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||||
Db      45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104
          |||||

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTN-----KKMKSQRRRKGST 106
          |||:| |||||
Db     105 CAPVKSGKAARSVRAQRHTDMPRTPK-KPLSGNSHTSCKEVHQKNSSRGNT 154
          |||:| |||||
```

RESULT 11

Q9IBI0

ID Q9IBI0 PRELIMINARY; PRT; 178 AA.
AC Q9IBI0;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Insulin-like growth factor I subtype Ea2.
GN IGF-IEA2.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=96241923; PubMed=8680527;
RA Liang Y.H., Cheng C.H., Chan K.M.;
RT "Insulin-like growth factor IEa2 is the predominantly expressed form
RT of IGF in common carp (Cyprinus carpio).";
RL Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; S82374; AAB37702.2; -.
DR HSSP; P01343; 2GF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;

Query Match 66.9%; Score 403; DB 13; Length 178;
Best Local Similarity 68.2%; Pred. No. 4.5e-40;
Matches 75; Conservative 12; Mismatches 19; Indels 4; Gaps 1;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||||
Db     62 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 121
          |||||
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ID      P81268          PRELIMINARY;      PRT;      188 AA.
AC      P81268;
DT      01-AUG-1998 (TrEMBLrel. 07, Created)
DT      01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Insulin-like growth factor I precursor.
GN      IGF-I.1.
OS      Oncorhynchus keta (Chum salmon).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC      Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX      NCBI_TaxID=8018;
RN      [1]
RP      SEQUENCE FROM N.A.
RA      Kavsan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,
RA      Roberts C.T. Jr., Leroith D.;
RT      "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene.";
RL      DNA Cell Biol. 11:729-737(1993).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=94296559; PubMed=8024699;
RA      Kavsan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA      Roberts C.T.Jr., Leroith D.;
RT      "Isolation of a second nonallelic insulin-like growth factor I gene
RT      from the salmon genome.";
RL      DNA Cell Biol. 13:555-559(1994).
RN      [3]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=95032736;
RA      Koval A., Kulik V., Duguay S., Plisetskaya E., Adamo M.L.,
RA      Roberts C.T.Jr., Leroith D., Kavsan V.;
RT      "Characterization of a salmon insulin-like growth factor I promoter.";
RL      DNA Cell Biol. 13:1057-1062(1994).
RN      [4]
RP      SEQUENCE FROM N.A.
RA      Gebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;
RL      Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
CC      -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR      EMBL; AF063216; AAC18833.1; -.
DR      HSSP; P01343; 2GF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      PRINTS; PR00277; INSULINB.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
SQ      SEQUENCE      188 AA;  20792 MW;  F4CEB6D05E0F24B8 CRC64;

```

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||:||||:|||||: |||||:|:|||||
 Db 45 GPETLCGAELVDTLOFVCGERGIFYFSKPTGYGPSSRRSHNRGIVDECCFOSCELRRLEMY 104

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRR 101
 |||:| ||||| ||||| |||||:| | | ::||
Db 105 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRTGERR 145

Search completed: December 12, 2003, 16:39:31
Job time : 29.753 secs

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:33:21 ; Search time 7.68976 Seconds
(without alignments)
678.820 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAELVDALQFVCGD.....TNKKMKSQRRRKGSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	%		DB	ID	Description
		Query	Match Length			
1	602	100.0	143	1	IGF1_RABIT	Q95222 oryctolagus
2	539	89.5	133	1	IGFB_MOUSE	P05018 mus musculu
3	536	89.0	195	1	IGFB_HUMAN	P05019 homo sapien
4	508	84.4	181	1	IGFB_RAT	P08024 rattus norv
5	465	77.2	130	1	IGF1_CAVPO	P17647 cavia porce
6	465	77.2	153	1	IGFA_HUMAN	P01343 homo sapien
7	460	76.4	122	1	IGF1_CANFA	P33712 canis famil
8	460	76.4	153	1	IGF1_PIG	P16545 sus scrofa
9	460	76.4	154	1	IGF1_BOVIN	P07455 bos taurus
10	456	75.7	154	1	IGF1_CAPHI	P51457 capra hircu
11	452	75.1	154	1	IGF1_SHEEP	P10763 ovis aries
12	450	74.8	127	1	IGFA_MOUSE	P05017 mus musculu
13	447	74.3	153	1	IGFA_RAT	P08025 rattus norv
14	419	69.6	124	1	IGF1_COTJA	P51462 coturnix co
15	419	69.6	153	1	IGF1_CHICK	P18254 gallus gall
16	417	69.3	81	1	IGF1_SUNMU	Q28933 suncus muri
17	412.5	68.5	153	1	IGF1_XENLA	P16501 xenopus lae

18	403	66.9	161	1	IGFB_CYP	Q90326	cyprinus ca
19	402	66.8	176	1	IGF1_ONCKI	P17085	oncorhynch
20	400	66.4	122	1	IGF1_HORSE	P51458	equus cabal
21	398	66.1	176	1	IGF1_ONCMY	Q02815	oncorhynch
22	393	65.3	161	1	IGFA_CYP	Q90325	cyprinus ca
23	272	45.2	214	1	IGF2_ONCMY	Q02816	oncorhynch
24	242	40.2	179	1	IGF2_SHEEP	P10764	ovis aries
25	236	39.2	155	1	IGF2_BOVIN	P07456	bos taurus
26	232	38.5	180	1	IGF2_HUMAN	P01344	homo sapien
27	231	38.4	128	1	IGF2_CAVPO	Q08279	cavia porce
28	229.5	38.1	129	1	IGF2_MUSVI	P41694	mustela vis
29	229	38.0	139	1	IGF_MYXGL	P22618	myxine glut
30	229	38.0	181	1	IGF2_HORSE	P51459	equus cabal
31	229	38.0	181	1	IGF2_PIG	P23695	sus scrofa
32	227	37.7	180	1	IGF2_MOUSE	P09535	mus musculu
33	224.5	37.3	180	1	IGF2_RAT	P01346	rattus norv
34	219	36.4	66	1	IGF2_CHICK	P33717	gallus gall
35	159.5	26.5	50	1	INS_MYOSC	P07453	myoxocephal
36	158.5	26.3	51	1	INS_GADCA	P01336	gadus calla
37	155.5	25.8	51	1	INS1_BATSP	P01337	batrachoidi
38	154	25.6	50	1	INS2_BATSP	P01338	batrachoidi
39	151	25.1	59	1	INS_HYDCO	P09536	hydrolagus
40	149	24.8	51	1	INS_CHIBR	P01327	chinchilla
41	149	24.8	51	1	INS_ZAODH	P12708	zaocys dhum
42	148	24.6	51	1	INS_ALLMI	P12703	alligator m
43	146.5	24.3	51	1	INS2_THUTH	P01339	thunnus thy
44	146	24.3	51	1	INS_ANSAN	P07454	anser anser
45	146	24.3	51	1	INS_CROAT	P01334	crotalus at

ALIGNMENTS

RESULT 1

IGF1_RABIT

ID IGF1_RABIT STANDARD; PRT; 143 AA.
AC Q95222; O18846;
DT 01-NOV-1997 (Rel. 35, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1 OR IGF-1.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC STRAIN=ZIKA;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC STRAIN=ZIKA; TISSUE=Liver;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

```

CC      ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC      MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC      -!- SUBCELLULAR LOCATION: Secreted.
CC      -!- ALTERNATIVE PRODUCTS:
CC          Event=Alternative splicing; Named isoforms=2;
CC          Name=IGF-IB;
CC          IsoId=Q95222-1; Sequence=Displayed;
CC          Name=IGF-IA;
CC          IsoId=Q95222-2; Sequence=VSP_002705;
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; U75390; AAB48032.1; -.
DR      EMBL; AF022961; AAB80950.1; -.
DR      HSSP; P01343; IGF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT      SIGNAL          1           32      POTENTIAL.
FT      CHAIN           33          102      INSULIN-LIKE GROWTH FACTOR I.
FT      PROPEP          103          143      E PEPTIDE.
FT      DOMAIN          33           61      B.
FT      DOMAIN          62           73      C.
FT      DOMAIN          74           94      A.
FT      DOMAIN          95          102      D.
FT      DISULFID         38           80      BY SIMILARITY.
FT      DISULFID         50           93      BY SIMILARITY.
FT      DISULFID         79           84      BY SIMILARITY.
FT      VARSPLIC        119          143      YQPPSTNKKMKSQRRRKGSTFEEHK -> EVHLKNTSRGSA
FT                                     GNKNYRM (in isoform IGF-IA).
FT                                     /FTid=VSP_002705.
SQ      SEQUENCE      143 AA;  16091 MW;  819AF577800A1B1A CRC64;

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Query Match          100.0%;  Score 602;  DB 1;  Length 143;
Best Local Similarity 100.0%;  Pred. No. 8.1e-56;
Matches 111;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
      |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      93 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 143

```

```

RESULT 2
IGFB_MOUSE

```

ID IGFB_MOUSE STANDARD; PRT; 133 AA.
 AC P05018;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=87040760; PubMed=3774549;
 RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
 RT "Sequences of liver cDNAs encoding two different mouse insulin-like
 RT growth factor I precursors."
 RL Nucleic Acids Res. 14:7873-7882(1986).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IB;
 CC IsoId=P05018-1; Sequence=Displayed;
 CC Name=IGF-IA;
 CC IsoId=P05017-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL; X04482; CAA28170.1; -.
 DR HSSP; P01343; IGF1.
 DR MGD; MGI:96432; Igf1.
 DR GO; GO:0009887; P:organogenesis; IMP.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
 FT SIGNAL 1 22
 FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 23 51 B.
 FT DOMAIN 52 63 C.
 FT DOMAIN 64 84 A.
 FT DOMAIN 85 92 D.
 FT PROPEP 93 133 E PEPTIDE.
 FT DISULFID 28 70 BY SIMILARITY.
 FT DISULFID 40 83 BY SIMILARITY.

FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B88D62502 CRC64;

Query Match 89.5%; Score 539; DB 1; Length 133;
Best Local Similarity 91.0%; Pred. No. 2.7e-49;
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy      61 CAPLKPAKAAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
      |||
Db      83 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKGSTFEEHK 133
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RESULT 3

IGFB_HUMAN

ID IGFB_HUMAN STANDARD; PRT; 195 AA.
AC P05019;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in
RT human liver.";
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [4]
RP SEQUENCE OF 22-50 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in

RT relation to insulin gene family.";
 RL Nature 310:777-781(1984).
 RN [5]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 RA Rinderknecht E., Humbel R.E.;
 RT "The amino acid sequence of human insulin-like growth factor I and
 RT its structural homology with proinsulin.";
 RL J. Biol. Chem. 253:2769-2776(1978).
 RN [6]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 RA Blundell T.L., Bedarkar S., Humbel R.E.;
 RT "Tertiary structures, receptor binding, and antigenicity of
 RT insulinlike growth factors.";
 RL Fed. Proc. 42:2592-2597(1983).
 RN [7]
 RP STRUCTURE BY NMR.
 RX MEDLINE=91242464; PubMed=2036417;
 RA Cooke R.M., Harvey T.S., Campbell I.D.;
 RT "Solution structure of human insulin-like growth factor 1: a nuclear
 RT magnetic resonance and restrained molecular dynamics study.";
 RL Biochemistry 30:5484-5491(1991).
 RN [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
 RA Yasuda T., Kobayashi Y.;
 RT "1H-NMR assignment and secondary structure of human insulin-like
 RT growth factor-I (IGF-I) in solution.";
 RL J. Biochem. 111:529-536(1992).
 RN [9]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 RT "Location of disulphide bonds in human insulin-like growth factors
 RT (IGFs) synthesized by recombinant DNA technology.";
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 RN [10]
 RP VARIANT ASP-187.
 RX MEDLINE=99318093; PubMed=10391209;
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RT "Characterization of single-nucleotide polymorphisms in coding regions
 RT of human genes.";
 RL Nat. Genet. 22:231-238(1999).
 RN [11]
 RP ERRATUM.
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RL Nat. Genet. 23:373-373(1999).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IB;
 CC IsoId=P05019-1; Sequence=Displayed;
 CC Name=IGF-IA;
 CC IsoId=P01343-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC -----
 DR EMBL; M14155; AAA52537.1; -.
 DR EMBL; M12659; AAA52537.1; JOINED.
 DR EMBL; M14153; AAA52537.1; JOINED.
 DR EMBL; M14154; AAA52537.1; JOINED.
 DR EMBL; M11568; AAA52539.1; -.
 DR EMBL; X03563; CAA27250.1; ALT_SEQ.
 DR EMBL; X03420; CAA27152.1; -.
 DR EMBL; X03421; CAA27153.1; -.
 DR EMBL; X03422; CAA27154.1; -.
 DR PIR; A01611; IGHU1B.
 DR PDB; 1GF1; 15-OCT-94.
 DR PDB; 2GF1; 15-APR-93.
 DR PDB; 3GF1; 15-APR-93.
 DR PDB; 1BQT; 18-MAY-99.
 DR Genew; HGNC:5464; IGF1.
 DR MIM; 147440; -.
 DR MIM; 265850; -.
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
 DR GO; GO:0005180; F:peptide hormone; TAS.
 DR GO; GO:0006928; P:cell motility; TAS.
 DR GO; GO:0006260; P:DNA replication; TAS.
 DR GO; GO:0009441; P:glycolate metabolism; TAS.
 DR GO; GO:0007517; P:muscle development; TAS.
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR GO; GO:0001501; P:skeletal development; TAS.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; 3D-structure; Plasma;
 KW Alternative splicing; Signal; Polymorphism.
 FT SIGNAL 1 21 POTENTIAL.
 FT PROPEP 22 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.

FT DOMAIN 111 118 D.
 FT PROPEP 119 195 E PEPTIDE.
 FT DISULFID 54 96
 FT DISULFID 66 109
 FT DISULFID 95 100
 FT VARIANT 187 187 A -> D (IN dbSNP:6213).
 FT /FTid=VAR_013945.
 FT STRAND 51 51
 FT TURN 55 55
 FT HELIX 56 69
 FT TURN 87 88
 FT HELIX 91 95
 FT TURN 96 97
 FT STRAND 99 99
 FT HELIX 106 109
 SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 89.0%; Score 536; DB 1; Length 195;
 Best Local Similarity 96.1%; Pred. No. 8.2e-49;
 Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRR 102
 |||||||:|||||||||||||||||||||||||||:|||||:
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQRRK 150

RESULT 4

IGFB_RAT

ID IGFB_RAT STANDARD; PRT; 181 AA.
 AC P08024;
 DT 01-AUG-1988 (Rel. 08, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shimatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors. Organization,
 RT sequence, and expression of the rat insulin-like growth factor I
 RT gene.";
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=88015572; PubMed=3658684;
 RA Shimatsu A., Rotwein P.;
 RT "Sequence of two rat insulin-like growth factor I mRNAs differing
 RT within the 5' untranslated region.";

RL Nucleic Acids Res. 15:7196-7196(1987).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=89127259; PubMed=3221878;
 RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
 RT "Structure of the rat insulin-like growth factor II transcriptional
 RT unit: heterogeneous transcripts are generated from two promoters by
 RT use of multiple polyadenylation sites and differential ribonucleic
 RT acid splicing.";
 RL Mol. Endocrinol. 2:1115-1126(1988).
 RN [4]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=89174609; PubMed=2538424;
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
 RA Nakamura S., Niwa M., Zapf J.;
 RT "Primary structure of rat insulin-like growth factor-I and its
 RT biological activities.";
 RL J. Biol. Chem. 264:5616-5621(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IB;
 CC IsoId=P08024-1; Sequence=Displayed;
 CC Name=IGF-IA;
 CC IsoId=P08025-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; M15650; AAA41214.1; -.
 DR EMBL; M15647; AAA41214.1; JOINED.
 DR EMBL; M15648; AAA41214.1; JOINED.
 DR EMBL; M15649; AAA41214.1; JOINED.
 DR EMBL; X06107; CAA29480.1; ALT_SEQ.
 DR EMBL; M15480; AAA41385.1; ALT_SEQ.
 DR PIR; A27804; A27804.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.

```

FT   DOMAIN      111   118   D.
FT   PROPEP      119   181   E PEPTIDE.
FT   DISULFID    54    96   BY SIMILARITY.
FT   DISULFID    66   109   BY SIMILARITY.
FT   DISULFID    95   100   BY SIMILARITY.
FT   CONFLICT    110   112   APL -> VRC (IN REF. 2).
SQ   SEQUENCE    181 AA;  20322 MW;  52BAB431875A1A06 CRC64;

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Query Match          84.4%;  Score 508;  DB 1;  Length 181;
Best Local Similarity 88.7%;  Pred. No. 6.2e-46;
Matches 94;  Conservative 4;  Mismatches 8;  Indels 0;  Gaps 0;

```

```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPKAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGST 106
      |||
Db      109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGES 154

```

RESULT 5

IGF1_CAVPO

ID IGF1_CAVPO STANDARD; PRT; 130 AA.

AC P17647;

DT 01-AUG-1990 (Rel. 15, Created)

DT 01-AUG-1990 (Rel. 15, Last sequence update)

DT 01-FEB-1994 (Rel. 28, Last annotation update)

DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).

GN IGF1.

OS Cavia porcellus (Guinea pig).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.

OX NCBI_TaxID=10141;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Pancreas;

RX MEDLINE=90332447; PubMed=2377480;

RA Bell G.I., Stempien M.M., Fong N.M., Scino S.;

RT "Sequence of a cDNA encoding guinea pig IGF-I.";

RL Nucleic Acids Res. 18:4275-4275(1990).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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CC -----

DR EMBL; X52951; CAA37127.1; -.

DR HSSP; P01343; IGF1.

DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 25
 FT CHAIN 26 95 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 26 54 B.
 FT DOMAIN 55 66 C.
 FT DOMAIN 67 87 A.
 FT DOMAIN 88 95 D.
 FT PROPEP 96 130 E PEPTIDE.
 FT DISULFID 31 73 BY SIMILARITY.
 FT DISULFID 43 86 BY SIMILARITY.
 FT DISULFID 72 77 BY SIMILARITY.
 SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;

Query Match 77.2%; Score 465; DB 1; Length 130;
 Best Local Similarity 98.8%; Pred. No. 1.3e-41;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||
 Db 26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 85
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||||:||||||||||||||
 Db 86 CAPLKPAKSARSVRAQRHTDMPKTQK 111

RESULT 6

IGFA_HUMAN

ID IGFA_HUMAN STANDARD; PRT; 153 AA.
 AC P01343;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
 GN IGF1 OR IBP1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86168194; PubMed=2937782;
 RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
 RT "Organization and sequence of the human insulin-like growth factor I
 RT gene. Alternative RNA processing produces two insulin-like growth
 RT factor I precursor peptides.";
 RL J. Biol. Chem. 261:4828-4832(1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=84068210; PubMed=6358902;
 RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
 RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
 RT "Sequence of cDNA encoding human insulin-like growth factor I

RT precursor.";
 RL Nature 306:609-611(1983).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108910; PubMed=2935423;
 RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
 RT "Complete characterization of the human IGF-I nucleotide sequence
 RT isolated from a newly constructed adult liver cDNA library.";
 RL FEBS Lett. 196:108-112(1986).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108862; PubMed=3002851;
 RA de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
 RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
 RT "Organization of the human genes for insulin-like growth factors I
 RT and II.";
 RL FEBS Lett. 195:179-184(1986).
 RN [5]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=91207342; PubMed=2018498;
 RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
 RA Sussenbach J.S.;
 RT "Complete nucleotide sequence of the high molecular weight human
 RT IGF-I mRNA.";
 RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
 RN [6]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=92186627; PubMed=1372070;
 RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
 RT "Characterization of two cDNAs encoding insulin-like growth factor 1
 RT (IGF-1) in the human fetal brain.";
 RL Brain Res. Mol. Brain Res. 12:275-277(1992).
 RN [7]
 RP SEQUENCE OF 24-50 AND 119-153 FROM N.A.
 RX MEDLINE=84295593; PubMed=6382022;
 RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
 RT "Insulin-like growth factor II precursor gene organization in
 RT relation to insulin gene family.";
 RL Nature 310:777-781(1984).
 RN [8]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 RA Rinderknecht E., Humbel R.E.;
 RT "The amino acid sequence of human insulin-like growth factor I and
 RT its structural homology with proinsulin.";
 RL J. Biol. Chem. 253:2769-2776(1978).
 RN [9]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 RA Blundell T.L., Bedarkar S., Humbel R.E.;
 RT "Tertiary structures, receptor binding, and antigenicity of
 RT insulinlike growth factors.";
 RL Fed. Proc. 42:2592-2597(1983).
 RN [10]
 RP STRUCTURE BY NMR.

RX MEDLINE=91242464; PubMed=2036417;
 RA Cooke R.M., Harvey T.S., Campbell I.D.;
 RT "Solution structure of human insulin-like growth factor 1: a nuclear
 RT magnetic resonance and restrained molecular dynamics study.";
 RL Biochemistry 30:5484-5491(1991).
 RN [11]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
 RA Yasuda T., Kobayashi Y.;
 RT "1H-NMR assignment and secondary structure of human insulin-like
 RT growth factor-I (IGF-I) in solution.";
 RL J. Biochem. 111:529-536(1992).
 RN [12]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 RT "Location of disulphide bonds in human insulin-like growth factors
 RT (IGFs) synthesized by recombinant DNA technology.";
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IA;
 CC IsoId=P01343-1; Sequence=Displayed;
 CC Name=IGF-IB;
 CC IsoId=P05019-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; M14156; AAA52538.1; -.
 DR EMBL; M12659; AAA52538.1; JOINED.
 DR EMBL; M14153; AAA52538.1; JOINED.
 DR EMBL; M14154; AAA52538.1; JOINED.
 DR EMBL; X00173; CAA24998.1; -.
 DR EMBL; X03563; CAA27250.1; ALT_SEQ.
 DR EMBL; M27544; AAA52787.1; -.
 DR EMBL; X03420; CAA27152.1; -.
 DR EMBL; X03421; CAA27153.1; -.
 DR EMBL; X03422; CAA27154.1; -.
 DR EMBL; X57025; CAA40342.1; -.
 DR EMBL; X56773; CAA40092.1; -.
 DR PIR; A92581; IGHU1.
 DR PDB; 1GF1; 15-OCT-94.
 DR PDB; 2GF1; 15-APR-93.
 DR PDB; 3GF1; 15-APR-93.
 DR PDB; 1B9G; 23-FEB-99.

DR PDB; 1GZR; 02-OCT-02.
 DR PDB; 1GZY; 02-OCT-02.
 DR PDB; 1GZZ; 25-JUL-02.
 DR PDB; 1H02; 25-JUL-02.
 DR PDB; 1H59; 16-MAY-02.
 DR PDB; 1IMX; 03-OCT-01.
 DR Genew; HGNC:5464; IGF1.
 DR MIM; 147440; -.
 DR MIM; 265850; -.
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
 DR GO; GO:0005180; F:peptide hormone; TAS.
 DR GO; GO:0006928; P:cell motility; TAS.
 DR GO; GO:0006260; P:DNA replication; TAS.
 DR GO; GO:0009441; P:glycolate metabolism; TAS.
 DR GO; GO:0007517; P:muscle development; TAS.
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR GO; GO:0001501; P:skeletal development; TAS.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; 3D-structure;
 KW Alternative splicing; Signal.
 FT SIGNAL 1 21 POTENTIAL.
 FT PROPEP 22 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96
 FT DISULFID 66 109
 FT DISULFID 95 100
 FT STRAND 51 51
 FT TURN 55 55
 FT HELIX 56 69
 FT TURN 87 88
 FT HELIX 91 95
 FT TURN 96 97
 FT STRAND 99 99
 FT HELIX 106 109
 SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 77.2%; Score 465; DB 1; Length 153;
 Best Local Similarity 98.8%; Pred. No. 1.5e-41;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108
 QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||||||:||||||||||||||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 7

IGF1_CANFA

ID IGF1_CANFA STANDARD; PRT; 122 AA.

AC P33712;

DT 01-FEB-1994 (Rel. 28, Created)

DT 01-FEB-1994 (Rel. 28, Last sequence update)

DT 01-NOV-1997 (Rel. 35, Last annotation update)

DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).

GN IGF1 OR IGFIA.

OS Canis familiaris (Dog).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.

OX NCBI_TaxID=9615;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=93366192; PubMed=8359700;

RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;

RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";

RL Gene 130:305-306(1993).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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CC -----

DR EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR PIR; PN0622; PN0622.

DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.
DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.

FT NON_TER 1 1

FT SIGNAL <1 19 BY SIMILARITY.

FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.

FT DOMAIN 20 48 B.

FT DOMAIN 49 60 C.

FT DOMAIN 61 81 A.

FT DOMAIN 82 89 D.

FT PROPEP 90 122 E PEPTIDE.

FT DISULFID 25 67 BY SIMILARITY.

FT DISULFID 37 80 BY SIMILARITY.

FT DISULFID 66 71 BY SIMILARITY.

SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 76.4%; Score 460; DB 1; Length 122;
 Best Local Similarity 97.7%; Pred. No. 4e-41;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
      |||||||:||||||||||||||
Db      80 CAPLKPAKSARSVRAQRHTDMPKAQK 105
  
```

RESULT 8

IGF1_PIG

```

ID  IGF1_PIG      STANDARD;      PRT;      153 AA.
AC  P16545;
DT  01-AUG-1990 (Rel. 15, Created)
DT  01-AUG-1990 (Rel. 15, Last sequence update)
DT  30-MAY-2000 (Rel. 39, Last annotation update)
DE  Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN  IGF1.
OS  Sus scrofa (Pig).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX  NCBI_TaxID=9823;
RN  [1]
RP  SEQUENCE FROM N.A.
RX  MEDLINE=90221822; PubMed=2326169;
RA  Mueller M., Brem G.;
RT  "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT  untranslated region, exons 1 and 2 and mRNA.";
RL  Nucleic Acids Res. 18:364-364(1990).
RN  [2]
RP  SEQUENCE OF 20-153 FROM N.A.
RX  MEDLINE=89096956; PubMed=3211153;
RA  Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT  "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT  deoxyribonucleic acid cloning and uterine expression of messenger
RT  ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL  Mol. Endocrinol. 2:674-681(1988).
RN  [3]
RP  SEQUENCE OF 1-21 FROM N.A.
RC  STRAIN=White Landrace; TISSUE=Liver;
RX  MEDLINE=94128209; PubMed=8297476;
RA  Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA  Gilmour R.S.;
RT  "The porcine insulin-like growth factor-I gene: characterization and
RT  expression of alternate transcription sites.";
RL  J. Mol. Endocrinol. 11:201-211(1993).
CC  -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC  ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC  MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----

DR EMBL; X17492; CAA35527.1; -.
 DR EMBL; X52388; CAA36617.1; -.
 DR EMBL; X52077; CAA36296.1; -.
 DR EMBL; M31175; AAA31043.1; ALT_INIT.
 DR EMBL; X17638; CAA35632.1; -.
 DR PIR; S12825; S12825.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match 76.4%; Score 460; DB 1; Length 153;
 Best Local Similarity 97.7%; Pred. No. 5.1e-41;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

RESULT 9

IGF1_BOVIN

ID IGF1_BOVIN STANDARD; PRT; 154 AA.
 AC P07455;
 DT 01-APR-1988 (Rel. 07, Created)
 DT 01-NOV-1991 (Rel. 20, Last sequence update)
 DT 01-OCT-1996 (Rel. 34, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE OF 2-154 FROM N.A.
 RX MEDLINE=90175014; PubMed=2308858;
 RA Fotsis T., Murphy C., Gannon F.;
 RT "Nucleotide sequence of the bovine insulin-like growth factor 1
 RT (IGF-1) and its IGF-1A precursor.";
 RL Nucleic Acids Res. 18:676-676(1990).
 RN [2]
 RP SEQUENCE OF 50-119 FROM N.A.
 RX MEDLINE=95172127; PubMed=7867698;
 RA Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
 RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
 RT oviduct during the oestrous cycle.";
 RL Exp. Clin. Endocrinol. 102:364-369(1994).
 RN [3]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=86085881; PubMed=3941093;
 RA Honegger A., Humbel R.E.;
 RT "Insulin-like growth factors I and II in fetal and adult bovine
 RT serum. Purification, primary structures, and immunological
 RT cross-reactivities.";
 RL J. Biol. Chem. 261:569-575(1986).
 RN [4]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=88268820; PubMed=3390164;
 RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
 RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
 RT and biological activities compared with those of a potent truncated
 RT form.";
 RL Biochem. J. 251:95-103(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; X15726; CAA33746.1; -.
 DR EMBL; S76122; AAD14209.1; -.
 DR PIR; S12672; IGB01.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 49

FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 50 78 B.
 FT DOMAIN 79 90 C.
 FT DOMAIN 91 111 A.
 FT DOMAIN 112 119 D.
 FT PROPEP 120 154 E PEPTIDE.
 FT DISULFID 55 97 BY SIMILARITY.
 FT DISULFID 67 110 BY SIMILARITY.
 FT DISULFID 96 101 BY SIMILARITY.
 SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;

Query Match 76.4%; Score 460; DB 1; Length 154;
 Best Local Similarity 97.7%; Pred. No. 5.1e-41;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||||||:||||||||||| ||
 Db 110 CAPLKPAKSARSVRAQRHTDMPKAQK 135

RESULT 10

IGF1_CAPHI

ID IGF1_CAPHI STANDARD; PRT; 154 AA.
 AC P51457;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Capra hircus (Goat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 OC Bovidae; Caprinae; Capra.
 OX NCBI_TaxID=9925;
 RN [1]
 RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
 RC STRAIN=Shiba; TISSUE=Liver;
 RX MEDLINE=95290780; PubMed=7772848;
 RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
 RA Utsumi K.;
 RT "Tissue- and development-specific expression of goat insulin-like
 RT growth factor-I (IGF-I) mRNAs."
 RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
 CC LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
 CC MUSCLE.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 DR EMBL; D26116; BAA05112.1; ALT_TERM.
 DR EMBL; D26117; BAA05113.1; -.
 DR EMBL; D26118; BAA05114.1; -.
 DR EMBL; D26119; BAA05115.1; -.
 DR EMBL; D11378; BAA01976.1; -.
 DR PIR; JC2483; JC2483.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 49 BY SIMILARITY.
 FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 50 78 B.
 FT DOMAIN 79 90 C.
 FT DOMAIN 91 111 A.
 FT DOMAIN 112 119 D.
 FT PROPEP 120 154 E PEPTIDE.
 FT DISULFID 55 97 BY SIMILARITY.
 FT DISULFID 67 110 BY SIMILARITY.
 FT DISULFID 96 101 BY SIMILARITY.
 SQ SEQUENCE 154 AA; 17082 MW; 07238B6AF3068422 CRC64;

Query Match 75.7%; Score 456; DB 1; Length 154;
 Best Local Similarity 96.5%; Pred. No. 1.3e-40;
 Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 ||||| ||:||||||||||| ||
 Db 110 CAPLKPTKSARSVRAQRHTDMPKAQK 135

RESULT 11
 IGF1_SHEEP
 ID IGF1_SHEEP STANDARD; PRT; 154 AA.
 AC P10763;
 DT 01-JUL-1989 (Rel. 11, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=90126234; PubMed=2575490;
 RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
 RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
 RT in the mRNA population.";
 RL DNA 8:649-657(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=91197361; PubMed=2015053;
 RA Dickson M.C., Saunders J.C., Gilmour R.S.;
 RT "The ovine insulin-like growth factor-I gene: characterization,
 RT expression and identification of a putative promoter.";
 RL J. Mol. Endocrinol. 6:17-31(1991).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=93221682; PubMed=8466647;
 RA Ohlsen S.M., Dean D.M., Wong E.A.;
 RT "Characterization of multiple transcription initiation sites of the
 RT ovine insulin-like growth factor-I gene and expression profiles of
 RT three alternatively spliced transcripts.";
 RL DNA Cell Biol. 12:243-251(1993).
 RN [4]
 RP SEQUENCE OF 55-135 FROM N.A.
 RC STRAIN=Coopworth; TISSUE=Liver;
 RX MEDLINE=93250051; PubMed=8485157;
 RA Demmer J., Hill D.F., Petersen G.B.;
 RT "Characterization of two sheep insulin-like growth factor II cDNAs
 RT with different 5'-untranslated regions.";
 RL Biochim. Biophys. Acta 1173:79-80(1993).
 RN [5]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=89136887; PubMed=2537174;
 RA Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
 RT "Sheep insulin-like growth factors I and II: sequences, activities
 RT and assays.";
 RL Endocrinology 124:1173-1183(1989).
 RN [6]
 RP SEQUENCE OF 50-79.
 RX MEDLINE=89323215; PubMed=2752053;
 RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
 RT "Simultaneous isolation of insulin-like growth factors I and II from
 RT adult sheep serum.";
 RL Biochim. Biophys. Acta 997:27-35(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Name=B;
 CC IsoId=P10763-1; Sequence=Displayed;

```

CC      Name=A;
CC      IsoId=P10763-2; Sequence=VSP_002707;
CC      Name=C;
CC      IsoId=P10763-3; Sequence=VSP_002706;
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; M30653; AAA80532.1; -.
DR      EMBL; M30653; AAA80533.1; -.
DR      EMBL; M31734; AAA80535.1; -.
DR      EMBL; M31734; AAA80534.1; -.
DR      EMBL; M31736; AAA31545.1; -.
DR      EMBL; M31735; AAA31546.1; -.
DR      EMBL; M31735; AAA31547.1; -.
DR      EMBL; X69472; CAA49230.1; -.
DR      EMBL; X69473; CAA49230.1; JOINED.
DR      EMBL; X69474; CAA49230.1; JOINED.
DR      EMBL; X69475; CAA49230.1; JOINED.
DR      EMBL; X69472; CAA49231.1; -.
DR      EMBL; X69473; CAA49231.1; JOINED.
DR      EMBL; X69474; CAA49231.1; JOINED.
DR      EMBL; X69475; CAA49231.1; JOINED.
DR      EMBL; X69473; CAA49232.1; -.
DR      EMBL; X69474; CAA49232.1; JOINED.
DR      EMBL; X69475; CAA49232.1; JOINED.
DR      EMBL; M89787; AAA31544.1; -.
DR      PIR; S22877; A33390.
DR      HSSP; P01343; IGF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT      SIGNAL          1      ?
FT      PROPEP          ?      49
FT      CHAIN           50     119      INSULIN-LIKE GROWTH FACTOR I.
FT      DOMAIN          50      78      B.
FT      DOMAIN          79      90      C.
FT      DOMAIN          91     111      A.
FT      DOMAIN         112     119      D.
FT      PROPEP         120     154      E PEPTIDE.
FT      DISULFID        55      97      BY SIMILARITY.
FT      DISULFID        67     110      BY SIMILARITY.
FT      DISULFID        96     101      BY SIMILARITY.
FT      VARSPLIC        1      21      MGKISSSLPTQLFKCCFCDFLK -> MVTPT (in
FT                                     isoform C).
FT                                     /FTid=VSP_002706.
FT      VARSPLIC        1      34      Missing (in isoform A).
FT                                     /FTid=VSP_002707.
FT      CONFLICT        57      57      A -> V (IN REF. 4).

```


SQ SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 75.1%; Score 452; DB 1; Length 154;
Best Local Similarity 96.5%; Pred. No. 3.5e-40;
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy      61 CAPLKPAAKARSVRAQRHTDMPKTQK 86
      ||| ||: |||
Db      110 CAPLKAASARSVRAQRHTDMPKAQK 135
```

RESULT 12

IGFA_MOUSE

ID IGFA_MOUSE STANDARD; PRT; 127 AA.
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=IGF-IA;
CC IsoId=P05017-1; Sequence=Displayed;
CC Name=IGF-IB;
CC IsoId=P05018-1; Sequence=External;
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
DR EMBL; X04480; CAA28168.1; -.

DR PIR; A25540; A25540.
 DR HSSP; P01343; IGF1.
 DR MGD; MGI:96432; Igf1.
 DR GO; GO:0009887; P:organogenesis; IMP.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
 FT SIGNAL 1 22
 FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.
 FT DOMAIN 23 51 B.
 FT DOMAIN 52 63 C.
 FT DOMAIN 64 84 A.
 FT DOMAIN 85 92 D.
 FT PROPEP 93 127 E PEPTIDE.
 FT DISULFID 28 70 BY SIMILARITY.
 FT DISULFID 40 83 BY SIMILARITY.
 FT DISULFID 69 74 BY SIMILARITY.
 SQ SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;

Query Match 74.8%; Score 450; DB 1; Length 127;
 Best Local Similarity 95.3%; Pred. No. 4.6e-40;
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||||| |||||||||||||| |||||||||||||| ||||||||||||||
 Db 23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82
 Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 ||||| |||||:|||||||||||
 Db 83 CAPLKPTKAARSIRAQRHTDMPKTQK 108

RESULT 13

IGFA_RAT
 ID IGFA_RAT STANDARD; PRT; 153 AA.
 AC P08025;
 DT 01-AUG-1988 (Rel. 08, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shimatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors. Organization,
 RT sequence, and expression of the rat insulin-like growth factor I
 RT gene.";
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.

RC TISSUE=Testis;
RX MEDLINE=88003970; PubMed=3652906;
RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA Hoyt E.C., Lund P.K.;
RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT I precursor.";
RL DNA 6:325-330(1987).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat
RT insulin-like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).

RN [4]

RP SEQUENCE FROM N.A.

RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).

RN [5]

RP SEQUENCE OF 46-153 FROM N.A.

RX MEDLINE=87246437; PubMed=3595538;
RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT "Identification, characterization, and regulation of a rat
RT complementary deoxyribonucleic acid which encodes insulin-like growth
RT factor-I.";
RL Endocrinology 121:684-691(1987).

RN [6]

RP SEQUENCE OF 49-118.

RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapf J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- ALTERNATIVE PRODUCTS:

CC Event=Alternative splicing; Named isoforms=2;

CC Name=IGF-IA;

CC IsoId=P08025-1; Sequence=Displayed;

CC Name=IGF-IB;

CC IsoId=P08024-1; Sequence=External;

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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CC -----

DR EMBL; X06043; CAA29436.1; -.

DR EMBL; M15651; AAA41215.1; -.

DR EMBL; M15647; AAA41215.1; JOINED.

DR EMBL; M15648; AAA41215.1; JOINED.

DR EMBL; M15649; AAA41215.1; JOINED.

DR EMBL; M17714; AAA41227.1; -.

DR EMBL; M17335; AAA41386.1; ALT_INIT.

DR EMBL; M15481; AAA41387.1; ALT_INIT.

DR PIR; B27804; B27804.

DR HSSP; P01343; IGF1.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.

FT SIGNAL 1 ?

FT PROPEP ? 48

FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.

FT DOMAIN 49 77 B.

FT DOMAIN 78 89 C.

FT DOMAIN 90 110 A.

FT DOMAIN 111 118 D.

FT PROPEP 119 153 E PEPTIDE.

FT DISULFID 54 96 BY SIMILARITY.

FT DISULFID 66 109 BY SIMILARITY.

FT DISULFID 95 100 BY SIMILARITY.

FT CONFLICT 110 112 APL -> VRC (IN REF. 4).

SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;

Query Match 74.3%; Score 447; DB 1; Length 153;

Best Local Similarity 94.2%; Pred. No. 1.1e-39;

Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Db 49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86

Db 109 CAPLKPTKSARSIRAQRHTDMPKTQK 134

RESULT 14

IGF1_COTJA

ID IGF1_COTJA STANDARD; PRT; 124 AA.

AC P51462;

DT 01-OCT-1996 (Rel. 34, Created)

DT 01-OCT-1996 (Rel. 34, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)

DE (Fragment).

GN IGF1.

OS Coturnix coturnix japonica (Japanese quail).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;

OC Coturnix.
 OX NCBI_TaxID=93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95187621; PubMed=7881819;
 RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
 RA Noguchi T.;
 RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
 RT Japanese quail (*Coturnix coturnix japonica*): changes during growth
 RT and development or after estrogen administration.";
 RL Comp. Biochem. Physiol. 109C:191-204(1994).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; S75247; -; NOT_ANNOTATED_CDS.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma.
 FT NON_TER 1 1
 FT PROPEP <1 19 POTENTIAL.
 FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 20 48 B.
 FT DOMAIN 49 60 C.
 FT DOMAIN 61 81 A.
 FT DOMAIN 82 89 D.
 FT PROPEP 90 124 E PEPTIDE.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 37 80 BY SIMILARITY.
 FT DISULFID 66 71 BY SIMILARITY.
 SQ SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;

Query Match 69.6%; Score 419; DB 1; Length 124;
 Best Local Similarity 88.4%; Pred. No. 7.5e-37;
 Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||||||||||||:||||||||||| |||||||||:|||||||||||
 Db 20 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 79
 QY 61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
 |||:| | :||||||||||||||| ||
 Db 80 CAPIKPPKSARSVRAQRHTDMPKAQK 105

RESULT 15

IGF1_CHICK

ID IGF1_CHICK STANDARD; PRT; 153 AA.
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913(1989).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RT conserved promoter elements.";
RL J. Biol. Chem. 266:9724-9731(1991).
RN [3]
RP SEQUENCE OF 49-118.
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurtry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth.";
RL Gen. Comp. Endocrinol. 79:459-468(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; M32791; AAA48828.1; -.
DR EMBL; M74176; AAA48829.1; -.
DR PIR; A41399; A41399.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.

